

Dissertations
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I.

Dissertation
on
Dysentery.

By
Gaylord G. Bissell,
of Torrington,
Candidate for the Degree of Doctor in Medicine.



Dysentery

The subject which I have selected for a thesis on the present occasion is Dysentery. The reasons which have caused me to select this as a topic for consideration at the present time are the wide spread and alarming prevalence of the disease the past season in various and remote sections of this country and the unusual fatality which has almost uniformly marked its progress. The subject under consideration naturally divides itself into three heads which will separately engage our attention viz. The pathology; the cause, and the treatment of the disease.



First the pathology. This disease is essentially an inflammation of the mucous membrane lining the lower part of the alimentary canal. It is generally characterized by griping pains in the abdomen straining and tenesmus. The movements are frequent and mucous or mucous mingled with more or less blood in the early stages and later especially in the chronic form of the disease we find more or less pus. These movements also are characterized usually by a total absence of all true fecal matter when the inflammation affects the rectum and descending colon but if the higher portions of the large intestine are involved the stools are or are supposed to be composed of solid matter in an unnaturally solid state mingled with blood and mucus. The patient is continually tormented with the feeling that there is excrement ready to be dislodged, wishes to go frequently to the recto-haie and is



irresistably impelled to exert himself to
overcome himself to get rid of the irritation.
We also find it stated by various authors
that a distinguishing mark of dysentery
movements is the occasional passing of small
hardened pieces termed scybala. That
these are often passed I have no reason to
doubt but I am compelled to say that
in the few cases that I have personally
witnessed I have never seen anything which
could justly be termed scybala as the term
is used by the authors above referred to. I have
therefore come to the conclusion that although
they are occasionally passed and perhaps even
often that they are by no means a patho-
-nomic symptom of the disease. In the
acute form of the disease (and it is that
to which I now chiefly allude) we usually
find more or less fever denoted in various
followed by the rapid pulse, the hot skin,
the red tongue, thirst and a general
feeling of lassitude involving the whole system



The pulse in the commencement of the disease is generally quick hard and frequently full but as the general tendency in abdominal disease it soon becomes small and weak. This fever is sometimes the precursor of the local disease but usually we do not meet with it until after the manifestation of the local disorder. When the disease is slight it may run its course with but very little general disturbance of the circulation but as a general rule we find the system at large considerably affected by the local inflammation. Often the stomach also is implicated to a great extent in the general disturbance and becomes highly irritable in the more severe cases and this is by no means among the least troublesome of the symptoms of which we have to contend. Even the mildest fluids are constantly rejected although the patient at the time is unnecessarily tormented by thirst. This irritability without doubt arises in a measure

from sympathetic influence continued through-
out the entire length of the alimentary canal.
Upon dissection or at a post mortem exam-
ination we find as we should naturally
expect from the symptoms of the disease
decided marks of inflammation, inflammatory
action. The mucous surface of the large
intestines is found in many places much
thickened and the glands that are distributed
throughout this part are found much enlarged
having the appearance of small fox pustules for
which they have occasionally been mistaken.
We also at times find more or less ulcers
which probably commences with one or more
of these glands as a center. In the very
worst cases we may find the whole interior surface
of the large intestine much disorganized present-
ing to the eye merely a mass of confused and
irregular fragments on the membrane. Mortification
also occasionally takes place even in the dead
and cases have been seen where the Alvine
discharges have passed through the part thus



affected into the cavity of the abdomen
The symptoms of dysentery vary of course according
as it assumes either the inflammatory or the
typhoid type. When it assumes the typhoid
stamp we have the decided marks of debility
soon after the disease commences. The pulse
becomes low and intermitting and in many
cases none at all is perceptible at the wrist
The extremities become cold and deathlike and
we find the patient picking at the bed
clothes. The teeth and tongue become brown
or black and the stools generally copious
and passed without the patient's knowledge.
But unless the most fortunate symptoms
supervene death soon closes the scene. The
diagnosis of this disease is however fortunately
very clear and almost the only complaint for
which it could be mistaken is diarrhoea and
the points of distinction in some of its cases are
such that it is almost impossible to err. Both
it is true are accompanied with frequent stools
and griping but in diarrhoea the stools are of a

watery character containing a large proportion
of fecal matter while the dysenteric movements
are denoted by a retention of the true fecal
matter and consisting as I have before said of
mucous or mucous mingled with more or less blood.
Still we must ever bear in mind the tendency
which we shall often find of dysentery to run
into even the worst forms of dysentery.
Secondly, as to the cause of the disease
like most other complaints we find
looking over the various who have treated
on this subject almost as many diverse
causes as could well be arranged.
It is however a disease of hot climates
and seasons occurring ~~less~~ in this latitude
more commonly during the months of
August and September. The continued
influence of heat may without doubt pre-
dispose the system to this disease by
rendering it more susceptible to the influ-
ence of cold. Cold and Moisture are
more often ascribed as the cause of this



disease than any other and without doubt
with good reason. We are well aware of
the effects of alterations of temperature
upon the human system causing various
morbid actions - sometimes of one char-
acter and sometimes of another. The pecu-
liar diathesis of the individual at the
time determining the peculiar character of
the disease. Malaria has often been
ascribed as the cause in different cases
and the occurrence of this disease as a
signal to or in connection with intermittent
fever has given grounds for such a supposition.
Contagion also has been ranked as among
the causes and in some cases it may arise
in that manner. As when in certain confined
situations many patients with this complaint
are huddled together without due attention
to cleanliness it may appear contagious.
But under ordinary circumstances it
hardly think it would be considered that
contagion was a common cause.

In a large majority of cases however as it has prevailed in this section during the past season we have been unable to point out any common exciting cause of the disease and this we find to be the case in most of the cases that occur sporadically. Many articles of diet such as unripe fruit of various kinds especially of an acid character are frequently considered as the exciting cause and perhaps justly. Exhalations from putrid animal matter and vegetable miasmata are also laid as among the common exciting causes of this complaint. We will ^{now} endeavor to consider the treatment which is indicated in this disease. One of the chief indications in this disease is to regulate the circulation and bring about a free diaphoresis. This in the early stage may often be promoted by the administration of an emetic. The operation of this seems often to give a centrifugal turn to the disease



and we often find the alvine discharges checked for a time at least by the operation. It is also of service in removing from the stomach an acid or indigestible substance which may thus be lodged. In some cases when the patient is of a strong and vigorous constitution and accustomed to much manual exercise we may perhaps resort to general blood letting with a fair prospect of benefit to the patient by making at once a decided impression on the disease. In the more common cases however I should as a general rule be opposed to the use of the lancet. Local depletion may however here come to our aid with the faintest hope of affording relief to the patient and in a measure checking the violence of the disease. This may be accomplished by the cups or by leeches applied along the course of the Colon. The amount of blood to be thus taken

can be graduated by the evident
effect upon the inflammation and the
relief afforded to the patient. At the
onset of the disease Calomel in large
doses of from \mathfrak{v} to a \mathfrak{ss} seems often to be
followed by a marked improvement of
the symptoms. This may be followed by
smaller doses so as to stimulate the
hepatic secretory function and sustain a
flow of bile. Or the Iodide of Potassium
in doses of \mathfrak{ss} 3 or 4 times daily may
be used. In the few cases that I have
known of this being used it has been
followed by the happiest effects. It shall
find benefit generally from combining the
mercury with small doses of Opium when
the Mercury is given in altivation doses.
The Opium aside from this combination
is a remedy of great value in this disease.
It diminishes the morbid sensibility of
the bowels to the irritating matters which
they contain and is also of service in

relieving the sufferings of the patient and
in procuring sleep which from the nature
of the affection is necessarily much interrupted.
It is much used in the form of Dover's
powders which has the tendency to fulfil
the double indication of procuring rest and
quiet for the patient and promoting
diaphoresis. When there is very high fever
and when the use of the "Lancet" is indicated
it is generally best to postpone the use
of this remedy till there has been free
depletion but as a general rule we may
expect to find benefit from its early use.
As to the general use of cathartics in this
complaint there has been great discrepancy
of opinion among the various authors who have
treated upon this subject. Some use them
early and repeat at short intervals during
the continuance of the disease while others
are opposed to their use at all. My own
opinion in this respect is that it may
be best to give a cathartic early to remove



from the bowels any acrid matter that
that they may contain but that afterwards
the irritation which they must necessarily
occasion upon the already inflamed surface
of the intestine must be productive of
injury. To relieve the tenesmus with which
the patient is constantly tormented we may
have recourse to an enema of starch and
laudanum in small quantities, say not
over $\frac{3j}{or} \frac{ij}{or} \frac{ss}$ of the mixture otherwise it will
be expelled by the irritable bowel. Should
not the patient be able to retain this we
may often use the suppository of solid opium
grs 2 or 3 with signal benefit. In the
latter stages of this disease we may be
compelled to resort to the use of stimulents
although we may run the risk of increas-
ing the already existing inflammation.
Rum Brandy &c must be used or we shall
see the patient sinking from exhaustion
which for a time at least this will prevent
This is a disease that is extremely apt to

relapse and we should warn our patient to avoid all exciting causes. Care should be taken to keep the patient and the bed clothes clean and to have the room well ventilated. The diet should be of a nourishing but mild and unstimulating variety. When able to lie out he should take moderate exercise in the open air. He must however be warmly dressed and in most cases it would be well perhaps to advise the wearing of flannel next the skin. He should be extremely cautious to avoid moisture as a damp room or bed clothes that have not been well aired and also guard against any sudden alternations of temperature.



II.

A
Dissertation
on
Dysentery.

By
Samuel Hall Catlin,
of Durham,
Candidate for the Degree of Doctor in Medicine.

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The subject which I have chosen for a
Dissertation is Dysentery. The prevalence of this
disease the past season, and the opportunity I
had of observing its progress and phenomena
on limited though they were, I have led me
to attempt a description, of some of its sympt-
oms, and their treatment. It will not be
expected that, I should bring before this
any new or original idea in relation
to the symptoms, causes, pathology or
treatment of this disease. As I shall have
to depend upon the ideas received from our
worthy professors, and from what I have
been able to gather from different authors
which have been consulted.

Dysentery has been defined, by different auth-
ors, to be an inflammatory affection of
the lining membrane of the large intestine
More commonly of the ^{descending} ~~large~~ ^{colon} ~~intestine~~
It is often ushered in by symptoms of

Langnor, Lassitude. pain in the back and limbs, with loss of appetite, disagreeable taste in the mouth. The Pulse some what depressed, or in other cases it may be accelerated. Chills followed by flushes of heat.

Thirst, with suppression of the cutaneous secretions. Tongue more or less coated.

Pain in the bowels. With costiveness, or in other cases preceded by diarrhea. Often there is constipation of the upper part of the intestines, while in the lower there is the dysenteric discharges. The symptoms peculiar to Dysentery, are severe griping, and bearing down pain. With a constant desire to go to stool at which time, the tenesmus and griping are severe.

In general the fever is developed before the Dysenteric symptoms show themselves.

Little or no feces are found in the discharges, they being of a mucous character mixed with more or less blood. In some cases there is not much blood mixed

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with the mucus, in others they consist almost entirely of blood. These discharges usually have a peculiar disagreeable smell, but no foetus in the beginning, in advanced and dangerous cases they have a pungent and caustic smell, and a corroding and sanguinous character.

Tenesmus is a constant attendant on this disease. The violence of this painful symptom affords a pretty accurate measure of the severity and danger of the case. The difficulty in voiding urine is often considerable. There is constant soreness and pain in the abdomen. The intestines distended with flatus, often towards the termination of fatal cases a colliquative diarrhoea occurs. In some cases the heart and arteries are but little affected in others, the febrile symptoms are of a high grade. In the protracted and unsuccumbed cases great prostration ensues. the pulse now becomes frequent small and corded.



The expression of the countenance is changed
skin hot and sunken. breath offensive.

The gumes frequently swollen and tender.

The Dysentery which appeared the past
season, is best described under the head of
tropical Dysentery or Colitis. It commonly
commenced in the form of a common diarr.
The calls to stool more frequent. the griping
and tenesmus increase as the disease advances.
The evacuations generally copious of a thin consist-
-ence. The pulse in this stage not much affected
the heat of skin not perceptibly increased.

Tongue but little changed in its appearance.
Usually considerable prostration with depression
of spirits. To these succeeds a fixed pain in
hypogastrium, extending to both iliac regions
and frequently extending the whole course of
the colon. with a sense of fulness, tension and
tenderness upon pressure. The ^{evacuations} become more
frequent and less copious, consisting of
mucous mixed more less with blood, or of a
bloody serum. Similar to water in which

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meat has been washed. suppression of urine
and disreeping tenesmus now become urgent
symptoms. Tongue covered with a white
fur, in other cases it exhibits a red, smooth and
glossed appearance, with a tremulous motion
when thrust out. Skin frequently covered
with a profuse perspiration. The pulse in
some assumes a feeble quickness, in others it
not much increased in frequency, full with
a peculiar thrilling sensation under the
finger. The discharges ^{which} are frequently invol-
untary, have an unpleasant odor, being frequ-
ently mixed with purulent matter andreds of
membranes.

Causes Dysentery prevails more extensively
in the latter months of summer and autumn
a hot and dry summer followed by a wet and cold
autumn. sudden alternations of temperature.
The sudden suppression of the cutaneous secretions
is thought to produce the disease



Diagnosis. The only diseases with ^{which} Dysentery can be confounded, are Cholera, hemorrhoids and diarrhea. The rapid march of Cholera is alone a sufficient diagnostic sign. Cholera rarely continues over a week often terminates in 24 hours, while the mean duration of Dysentery is a bout a fortnight. The vomiting which is a constant attendant on Cholera, is rarely observed in dysentery.

The discharges in Dys are mucous mixed with blood of a mucous sanguinolent character, in Chol they are of a bilious character. Tenesmus ^{also} is absent in the above discharges are copious passed without pain. The spasm which attend Chol are not present in Dys. The tumor at the margin of the anus, the blood flowing from the commencement ^{ment} of the disease unmixed with mucous, the natural and soiled appearances of feces, with the freedom from the severe griping and tenesmus, are sufficient diagnostic signs. The diagnosis between Dys and Diarrhea is more difficult. The presence of fecal matter, with the absence of mucous and blood ⁱⁿ the discharges, the freedom from tenesmus and griping pain in diarrhea, are good ^{signs} diagnostic.

Post Mortem appearances. These vary according to the period of Death, and the nature of the case. If it prove fatal in the earlier stages the appearances are those of inflammation simply; or of inflammation with gangren of the mucous membrane. If at a more advanced stage, the other coats of the bowels are affected and numerous and extensive ulcerations are discovered. In inflammation the external appearance of the bowels is healthy, but on opening it; portions of the mucous membrane of the colon and rectum are found of a bright red; or of a brownish or dark brown color, and sensibly elevated above the surrounding healthy parts. These elevations are sometimes covered with a sanguineous or sanious secretions, which gives it the appearance of ulceration; if this be carefully washed ^{or scraped} off, the surface of the membrane will be found unbroken. False membrane is also sometimes found covering the mucous membrane. Dr O'Brien describes it as occurring in patches, or the whole surface may be covered with a uniform



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layer of white lymph. In the more chronic cases the coats of the intestine are thickened, contracted and ulcerated. The appearance of these ulcers are various. An extensive surface of the intestine may be ulcerated, and even gangrenous; or circumscribed patches, varying in size. The follicular ulcers are of small size elevated; and containing purp; these are occasionally found inflamed of a tubercular appearance. These ulcerations occasionally perforate all the coats of the intestine. In which case the contents of the intestines, may be discharged into the abdomen. This however is of rare occurrence. Other viscera are sometimes affected. The mesenteric glands have been found enlarged and ulcerated.

The Liver was formerly; supposed to have been affected. Recent pathologists consider structural derangement to take place much less frequently, than was formerly supposed;

Prognosis When the discharges in the colon^{thick} consist almost entirely of blood: it is usually more tractable, than ~~the~~ when they are



composed of mucus, or mucus streaked with blood
 The appearance of bile and natural feces in
 the stools are favorable signs. Colligative
 and fetid stools in advanced stages a
 typhritic state of the bowels, attended
 with a discharge of a mucous anions fluid
 are unfavorable. When the tormina
 tenesmus and tenderness a late we may
 regard the disease as tending towards a favorable
 termination.

Treatment. } The principal indications are
 1st To moderate the febrile reactions of the
 heart and arteries when it is excessive
 2nd To restore the regular action of the
 skin and liver

3rd To moderate and subdue the local
 inflammation of the bowels

The torpor of the cutaneous exhalants, and
 the hepatic derangement, occur before the
 local inflammation. Shows itself. As high
 arterial excitement is incompatible with
 the healthy restoration of these functions

and it tends to sustain, and increase the local
congestion, it should be moderated; especially
if excessive by bleeding; in most cases however
the attending fever is not of this inflammatory
character, but more of an atonic kind, in which
the lancet would be inadvisable.

Purgatives in the beginning of this disease are
strongly indicated. The secretions forced into
the alimentary canal are acid and irritating;
by the administration of irritating cathar-
tics we remove one cause of irritation.

The cathartics most useful are mucinals
Castor Oil &c. these should be combined with
opium, to allay the spasmodic contraction
which would prevent the passage of the feces
from 10 to 15 grs of Calomel with 1/2 gr to 1 gr of
opium, followed with Castor Oil ʒj if necessary.
In the dysentery of hot climates has been
given in ʒj doses with good effect.
Rhubarb in the more chronic form is
often beneficial from its tonic powers.
Emetics, are recommended by some writers



especially in the beginning of the disease. When
 when the tongue is covered with a brown
 fur with nauta of the emetic Specac
 is the best, emetics prove serviceable by prom-
 oting a dermisation to the skin, relieving
 the engorgement of the liver. Calomel
 with Specacum and opium, given with a
 view to its alterative action is in many
 epidemics is salutary. To relieve the local
 inflammation and congestion, leeches may
 be applied to the region of the abdom-
 en. Stimulant or emollient policies
 to which if the pain is excessive Opium
 may be added. Enematas of thin starch
 or Mutton broth with half a ~~teaspoonful~~ spoonful to
 a tea spoonful of Laudnum. if the pain
 and tenesmus are severe, these should be
 repeated after each evacuation. When these
 are not retained suppositories may be intro-
 duced into the rectum. They may be made of
 lard, Seret, simpl. or unguinum Gallic
 with a gr of Opium. of these four may be used

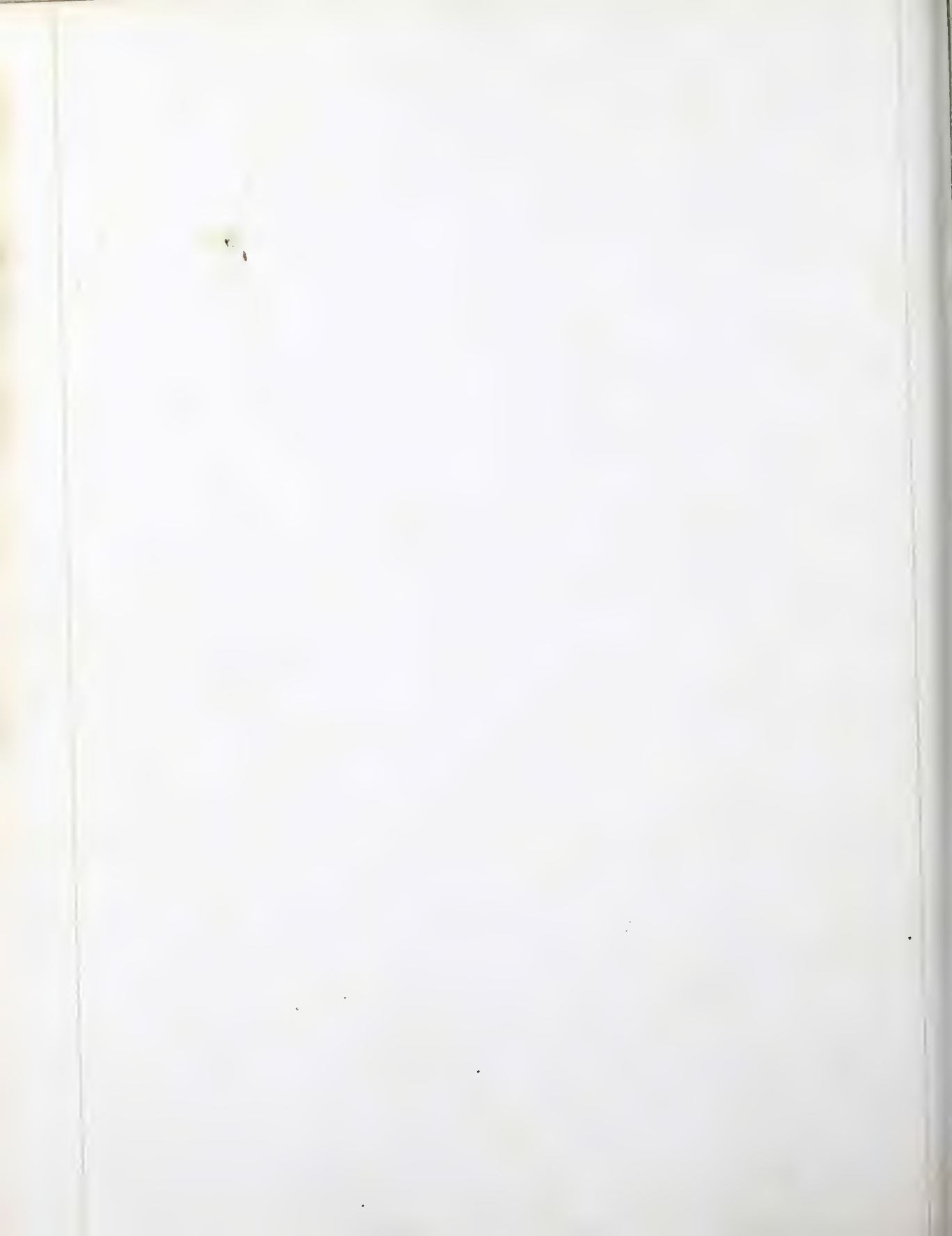


according to the severity of the case. in the 24 hours
 enemmas of Turpentine with milk are benef-
 icial in the latter stages. Enemmas of Nitrate
 of Silver gr. ~~xx~~ to ~~xx~~ to Water ℥ij or ℥iv. or
 Sulph Alumine ℥j Water ℥viii. These allay the
 irritation and diminish the frequency of the
 stools. The mucilages as gum Arabic alone or combined
 with ipecac. Camphor and chalk. The following
 I have seen ~~also~~ prescribed. Gum Acacia ℥j
 Gum Camphor ℥j. Carb Ammonia ℥j.

Opium is a valuable remedy, combined with
 acetat Plumbi or with Tartaric Acid. the vegeta-
 ble astringents are also useful as Spica
 Nomentosa. White Oak and pine bark. Hemat-
 oxylon, &c. These may be given in infusion
 or the extract. in the more chronic form
 the Terbinthinate and balsams are useful
 The following I have seen used. Terbints
 ℥ij Sulph Sufur grs opium grs given
 from 4 to 6 the 24 hours. the mineral acids
 with loadstone. In the latter stages Stimulants
 and Tonics may be indicated, of these I branch

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Vinum Opot. or Cherry Aum. &c. of the tonic
the vegetable bitters. Cincona. Cornus coccinea
Columba. &c.

J. W. H. H. H.



III.

Dissertation
on
The application of Chemistry
to Medicine.

By
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of New Haven,
Candidate for the Degree of Doctor in Medicine.



It may appear to some a work of supererogation at the present day, to lay so much as a second error of the paramount importance, of a competent knowledge of the science of Chemistry, to the medical practitioner - or to speak of the practical application of its principles by the well educated Surgeon: but every days experience affords new proof, that Chemistry, although rapidly rising in the estimation of the profession and its study, rigidly requires at all our best Medical Institutions, has not as yet reached the high rank which it deserves, on which the best interests of the healing art demand for it - No argument is necessary to prove the dependence upon Chemistry of nearly the whole of our Materia Medica - We can hardly write a prescription without in some way making use of our acquaintance with this science - From the "Burnt Alum" of the domestic Pharmacopæia, to the most complex and powerful preparations of our own Wood & Bache, we are constantly obliged to solicit the aid of the Chemist and Pharmaceutist. We are told by the older authors that the external application of the Acetate of Lead, is harmful - and if a physician who is not aware of the chemical change



which this salt undergoes on exposure to the atmosphere, were to apply it in solution to a denuded surface - of the face for example - he would be astonished and alarmed perhaps next day to find he had produced a paralysis of the muscles of that region and is utterly unable to account for the hideous deformity - In this dilemma, he calls in consultation some neighboring physician, who although "accused of being young" may perhaps be more of a chemist than his elder brother - he at once discovers that the Acet. Lead by absorbing Carbonic Acid from the atmosphere, has become a carbonate and of course a poison - and in order to guard against such an unpleasant occurrence would have directed an excess of Acetic Acid (Vinegar) to be added to the solution - which will effectually prevent this change taking place.

Again the surgeon, when he introduced a polished silver probe into the fistulous opening of an iliac abscess, will not be startled unless he has neglected or forgotten his chemistry, if on withdrawing it he finds it perfectly black - but will detect in this way, if not



by his olfactories, the presence of sulphuretted hydrogen gas and will recognise in the black film which has dim'd the lustre of his instrument, the sulphuret of Silver—

Numerous similar instances might be cited but after alluding in a word to some of the most recent triumphs of Chemistry E. g. The establishing the theory of Animal Heat—also that of Respiration, by a highly distinguished German Philosopher, I shall pass onto the considerations of the subject which I have chosen for the basis of my remarks—

The detection of poisons by chemical tests has for a long period engaged the attention of medical men of the highest attainments both in this country and in Europe, and it would be presumptuous in me to think of offering anything original upon a subject on which so much talent and research have already been expended.

The poison most commonly made use of as a means of self destruction or murder is Arsenic—and of account of its being so frequently used for criminal purposes, every physician should



be aware of its highly poisonous properties, and of the best methods of counteracting its deadly effects — at the same time he should provide himself with the most delicate tests, and be able to detect its presence after death in cases where it had been administered — or to prove by negative evidence the innocence of the unjustly accused of a capital crime —

It is I believe too true of physicians generally that they are far better acquainted with every other branch of their profession than with Medical Jurisprudence — and many of their investigations of cases in Legal-Medicine, published and unpublished, prove nothing, but the very limited state of their knowledge in this important department of science.

It may not be amiss to mention in this connection a case which recently came to my knowledge — Two physicians in New Hampshire had occasion to make a post-mortem examination in a case of suspected poisoning by Arsenic — They found on laying open the stomach and intestines, in-

-doubtful signs of extensive inflammation - such as they supposed could be produced in so short a time, by nothing but a violent poison - of course then Arsenic had been administered! But in order to place the matter beyond dispute and to obtain evidence that would satisfy others, they threw the stomach and intestines with their contents upon a shovel of ignited coals, and getting their noses over it, declared they could smell the "garlic odor" - It is indeed almost incredible that a physician could be found willing to venture an opinion upon a question of such great moment without making himself master, at least of that one point, even if he had, as is too often the case, resigned the study of Medical Jurisprudence exclusively to the legal profession -

Arsenious Acid is frequently used as a remedial agent: and when taken internally has the action of an alterative and febrifuge - when used externally that of a violent irritant. The principal diseases in which this medicine or its preparations are used, are Intermittent fever - in form of Fowler's solution,

(Arsenite of Potassa) Chronic Rheumatism - Schirrus-
cancer, - especially of the life diseased of bones -
Neuralgia &c - When commencing its exhibition,
the dose should be small and carefully watching
its operation it may be increased - The specific
effects of this remedy are Edema of the face especially
of the eye-lids - itching of the skin - tenderness of
the mouth - uneasiness and sickness of the stomach
loss of appetite - When these symptoms make their
appearance the Medicine should be immediately with-
held. - Its external use is principally confined to
cancer - malignant ulcers - morime tongue &c -
It is the chief ingredient in all the empirical can-
cer plasters, and enters largely into the composi-
tion of the secret remedies of the French -
Unmixed Arsenic should never be used in any way -
the safest form is that of a solution or Ointment.
The first may be made of Arsenious Acid - Carb
Soda aa viijss Distilled Water ℥ and an Ointment
of Arsenious Acid ℥i Simple Cerate $3 \times \text{ij}$ - Arsenic
may be conveniently administered in the form of
Pills, - a good formula for which is, to mix iss of



the Arsenic with 4 grs Sugar crush of bread & d
~~the~~ and divide into 4 pills one of which is a dose.
Its reputation as a remedy is fast declining I
believe in this country and with the exception of
Fowler's solution in fever and ague is seldom
prescribed and even this preparation enjoys but
a poor reputation except in the Northern Middle
States where intermittents are seldom seen
unless imported - In an overdose whether taken
internally - or externally - Arsenic acts with very
great violence and generally produces death in
a short time. "The most prominent symptoms which
are manifest are" an earthy and extremely fetid
taste in the mouth - frequent styalism, constant
hacking - constriction of the pharynx and
esophagus - sensation as if the teeth were on
edge - hiccough - anxiety - nausea - frequent
Syncope - burning pain in the precordial region -
inflammation of the lips, tongue - palate throat,
and esophagus - the stomach so irritable as to
reject the blandest drinks - vomiting of matters
at one time brown and at another bloody - black



and horribly foetid stools - pulse small, frequent, concentrated and irregular - occasionally slow and unequal - palpitations - insatiable thirst - burning heat or icy coldness over the whole body - difficult respiration - cold sweats - urine, red scanty and bloody - change in the countenance - livid circle round the eyes - swelling and itching of the body - livid spots on the surface - miliaary eruptions - prostration of strength - delirium - convulsions and death.

A group of more distressing symptoms could hardly be imagined although all of them are by no means presents in any one case - often indeed they may be nearly or quite all absent, death taking place so rapidly - as to leave no time for their development - The appearances exhibited upon post-mortem examination are very striking and in some instances not as distinctive of the disease as be found - but in a majority of cases the following are the pathological changes: The mucous membrane of the mouth, stomach and intestines is found highly inflamed.

Spots resembling eschars, are found in the stomach, sometimes with a perforation of all its coats. — The villous coat of this organ is frequently destroyed and reduced to the color and consistence of a chocolate-brown pulp. In fact the mucous membrane is in much the same state as in case of death from acute gastritis produced in any other way. Doct Christison divides the poisonous effects of Arsenic into three orders of cases according to the violence of the symptoms — In his first order the poison produces intense irritation and inflammation along the course of the alimentary canal and death occurs in two or three days — In the second class the signs of inflammation are moderate or entirely wanting — death takes place in five or six hours — a period too early for inflammation to be set up. In the third order of cases two stages occur, — one in which inflammatory symptoms are developed as in the first order — the other characterised by symptoms of nervous irritation, such as imperfect paralysis of the arms or legs, epilepsy — tetanus — hysteria — mania — &c. This poison

whether taken directly into the stomach or applied ex-
ternally - to some absorbing surface, for example a re-
cent wound, some almost invariably to expend its
violence upon that viscus alone provided that death
does not immediately ensue - Doct Baillie however
mentions some cases in which the rectum much
inflamed while the colon and small intestines
remained unaltered - There has been a great deal
of controversy about the precise mode in which
arsenic acts when applied externally - That it
produces death when used in this way cannot be
doubted. - Sir Everard Home - Hunter - Orfila
and many others have reported fatal cases
resulting from the application of the arsenical paste
to an Ulcer, a Cancer, or morbid growth, as well as
from its application to a fresh cut - fatal cases
of the latter kind are by far the most numerous. -
Doct Physic observes that although he had re-
peatedly employed arsenic as an external appli-
cation, he has never in his very extensive practice
seen it productive of the injurious consequences
which have been attributed to it.

In striking a balance among so much conflicting testimony, it seems most probable that the circumstances of the various experiments were widely different - and the difference in their results seems most immediately to depend upon the circumstances of the application, whether favorable or unfavorable to absorption -

Arsenious Acid when producing the death of a part does not act as an escharotic - it destroys the vitality of the tissue and decomposition ensues as the consequence. While an escharotic chemically decomposes the part with which it comes in contact, thus placing it in a condition opposed to vitality - It is quite evident then why the operation of this poison should be often confined to diseased portions, as these parts are possessed of a lower degree of vitality and are consequently less able to resist the action of Arsenic, than the healthy tissue. The escharotics act alike upon tissues healthy and diseased - Perhaps in this way we can account for the reputed cures by the "Cancer Doctor" with his

"eating plasters" if such things ever happen, they act by destroying the vitality of the whole diseased portion and causing it to be thrown off as a foreign body. - But the scientific importance which Arsenic possesses from the great variety of compounds and its extensive uses, as well as from its application in Medicine, is forgotten, when we again refer to the frequent necessity there is for detecting exceedingly small portions of it in cases of suspected poisoning. -

What a fearful weight of responsibility rests upon the person commissioned to make this investigation - the life, of an innocent man perhaps, depends upon his ability and honesty - or even upon the manner of giving his testimony. - In a trial of this nature, the mere color of a precipitate would do but little towards convincing the minds of an intelligent jury. - They have only the assertion of the Chemist that certain reagents will throw down from a solution containing Arsenic, a precipitate of a certain color. - They know not but the Chemist by the same tests, could produce from any other



solutions, the same colors at will - And I should hope that twelve men could not be impelled who would be willing to risk the life of a fellow being upon what seems to them but the "hazards of a die" - the effect of mere accident. What care they whether the chemist throws down "Scheele's green" or the "golden opium" - they look for something more tangible - something that they can comprehend - and nothing but the "experimentum crucis" should satisfy their minds - Arsenious Acid cannot be distinguished by the eye from any other white powder, as was once confidently affirmed by a chemist in a Court of Justice - it is very heavy and but sparingly soluble, and therefore is rapidly deposited from any fluids through which it had been diffused - of course - then all vessels in which food or drink had been contained, should be rigidly examined for any traces of it that might remain - All substances vomited by the person suspected to have been poisoned, should be closely examined for the same purpose, and preserved in a secure

-rately stopped glass vessels for further investigation - and in case of death, the stomach and intestines should be likewise scrutinised and preserved - each vessel after being sealed with a private seal should be placed under lock and key for additional security.

If the examination of the body be deferred until some time after death, the small grains of arsenious Acid still adhering to the surface, of the stomach, will probably be tinged with yellow by the sulphuretted hydrogen. Should portions of the white powder be found, the examination is very simple - Its properties are

- 1st When heated alone in a glass tube the powder sublimed and condenses again in brilliant octahedral crystals.
- 2nd Mixed with a little black flux and ignited in a tube closed at one end, metallic arsenic is sublimed, forming a steel grey crust, dull upon the inside, but brilliant on that next the tube, and on applying the nose to the open of the tube the garlic odor is perceived.
- 3rd On cutting off the sealed end of the tube and heating the part containing the metallic crust, the tube being slightly inclined, the metal disappears.



and on crest of white arsenic condensed a little. A current of air passed through the tube, with the oxygen of which the metal combined. In this process, the garlic odor became more marked than in No. 1. ^{the} The white powder dissolved in water and yielded precipitates with the following re-agents.

A. Sulphuretted Hydrogen gives a rich yellow precipitate - which is Oxyarsenite. Soluble in Ammonia and thrown down on adding an Acid.

B. Ammoniated Nitrate Silver, gives a creamy yellow, the Arsenite of Silver - soluble in excess of Alkalies or Acids.

C. Ammoniated Sulph. Copper gives the "Schweel's green" Not one of these liquid tests however, is decisive when taken by itself, but when a suspected solution gives with each of them its proper precipitate, from which in each case metallic Arsenic has been sublimed by the process described as No. 2, then not a shadow of doubt remains, as to the character of the solution. There are also two others, proposed by which metallic Arsenic may be obtained.

The one consists in converting the Arsenic into sub-

-phurets, and the others into arseniacets of hydrogen.

Both of these tests are very beautiful and certain in their operation, but the latter one proposed by Mr. Marsh is decidedly preferable, on account of its delicacy and extreme delicacy, as by it, Arsenic can be detected even in the homoeopathic dose of $\frac{1}{250}$ of a grain - In making use of the first test, the contents of the stomach and small intestines (and in many cases these organs themselves) or the matters ejected by vomiting during life are to be boiled in distilled water for half an hour - the liquor is then to be strained through linen. If it is too turbid to allow of a small quantity of precipitate being observed, a current of chlorine gas should be passed through it by which most of the animal matters are coagulated and a more perfect solution obtained, which after being again strained should be well boiled to expel the excess of chlorine, and then submitted to the action of the Sulphuretted Hydrogen Gas. - The animal matters may also be removed by adding Nitric Acid, after the solution has been acidulated by Nitric Acid - When the precipitate, which forms,

has been separated, the excess of Nitric Acid is to be thrown down by Chloride of Sodium, and the liquor after being again filtered is ready for the action of the Hydro-Sulphuric Acid. When the liquor smells strongly of this gas, it is an indication that enough has been passed through - it should then be briskly boiled to expel the excess of the acid, and also to favour the deposition of the precipitate which must be collected on a filter, then carefully washed with water acidulated with Muratic Acid - and dried at a moderate heat. When completely dry it is to be mixed with about twice its bulk of black flux and ignited in a small tube of hard glass as directed in N^o 2. - The materials should be introduced with great care, through a delicate glass funnel so as not to soil the sides of the tube. On the application of heat, metallic arsenic sublimed and is easily recognised by its peculiar characters which have been already described.

Marsh's test by arseniuretted hydrogen is as easily employed, and the preliminary steps in this operation



are the same as in the other -

after having freed the liquid from all various matters and obtained as thin a fluid as possible; by either the Nitro Silver or Chlorine-Gas, it should be rendered slightly acid by Hydrochloric or Sulphuric Acid and introduced into a Glass Jar (a bottle will do as well) to the neck of which should be fitted a small tube of hard glass, which after passing for a few inches horizontally should turn up and form a jet. A piece of pure Zinc being now added to the liquor previously made acid, Hydrogen Gas is evolved, and instantly combines with any Arsenic which may be present forming the arseniuret of Hydrogen. When the gas issuing from the tube is set on fire - if the hydrogen is pure, no other product than water is formed, - but if the slightest trace of arsenic is present, the flame assumes a white color, and on holding over it a piece of porcelain, or mica, a film is deposited which if white is arsenious acid, and if brown is metallic Arsenic, according as the plate is held at a greater or less

distance from the tube.

The dust I think cannot be properly called a brown color unless the arsenic is in considerable quantity - usually it is a Sulphurous Steel grey with slight shades of brown. If the arsenic is in too small quantity to produce this effect, it can be detected by igniting a portion of the horizontal shaft of the tube - In passing this point the gas deposits its arsenic which is carried a little beyond by the current, and is then rendered as a distinct film - by keeping the tube red hot for some hours, the smallest trace of arsenic may be concentrated upon a single point and its properties accurately verified - In order to guard against error the gas should be generated very slowly - indeed as by a rapid effervescence small particles of lime, or of its salt may be carried up and deposited upon the mica forming a crust that might ^{create} unjust suspicions - This may be avoided by first passing the gas through a tube filled loosely with cotton by which all particles of metal may be separated - Another source of error is



found in the impurities which may exist in the
Zinc or Sulphuric acids, or both. They may contain
arsenic and should be distilled - or, rather should
be tested by the process itself. But yet another and
more remarkable source of error exists in the fact
that Antimony and its compounds yield by the same
process a very similar gas, Antimonurets of hydrogen
which may known by the following characters.

First - The antimonurets of hydrogen, when decomposed by
heating to redness a part of the tube through which it
passes, deposits its film at the heated part while Arsenic
settles at a cooler point beyond.

Secondly - The metallic crust cannot be volatilized by
any heat that can be applied to glass. In some cases
of poisoning by arsenic where Tartar Emetic has been
given to produce Emesis, it is possible that both metals
may be present in the solution, - In such a case the
process is the same - decomposing the mixed gases, by
igniting the tube as before - the Antimony will be found
at the heated point and the arsenic at the cool part
of the tube just beyond. Since writing the above I
have noticed in the April No of the American



Journal of Arts and Sciences, the announcement of another test for arsenic. Whether upon trial it will be found worthy the high recommendation of its author (M. Riensch) is quite problematical. The principle upon which his test is founded, is, that pure hydro-chloric Acid has no action upon bright metallic copper - but if it contain Arsenic (or a few other metals,) the acid is decomposed and metallic Arsenic precipitated upon the copper. Into a suspected fluid he puts a small quantity of the pure Acid. into this he puts pieces of copper wire filed bright - the whole is then boiled for a few minutes in a glass flask - if Arsenic is present, the copper will be found coated with "a film of the color and lustre of rolled Zinc - or a deep black with a slight polish, - or covered with scales of a black color" -

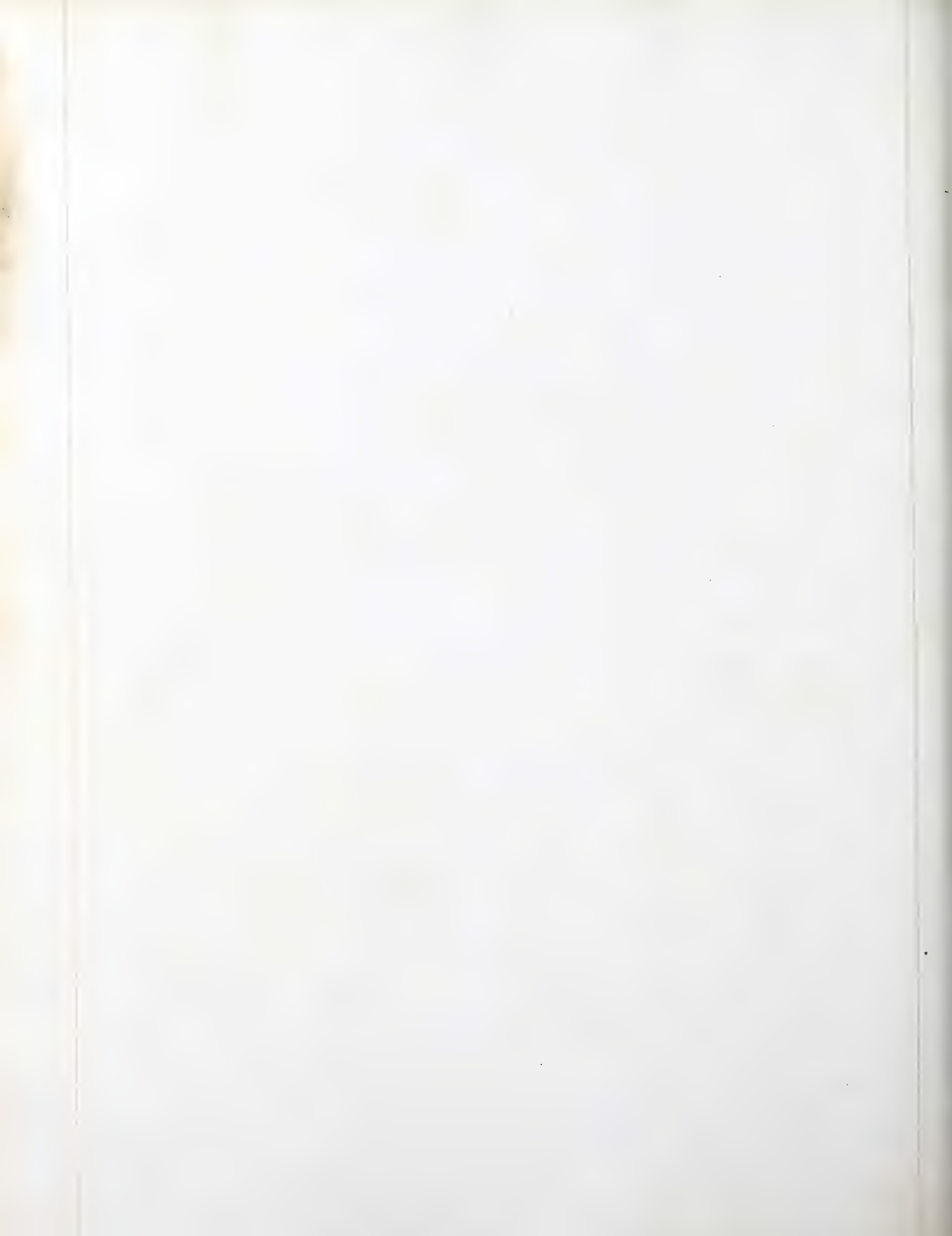
These appearances depend upon the quantity of the poison and the extent of surface of the copper. The bits of copper are now loosely placed in a glass tube, one end of which has been finely-drawn, but not closed. Upon applying the heat

of a spirit lamp in some way as with Marsh's test, the metallic arsenic is sublimed but is instantly oxidised by the atmosphere passing in at the lower orifice of the tube, and deposited as arsenious acid upon a cool part of the tube.

Arsenic, possessed in an eminent degree the power of preserving animal substances from putrefaction its useful employment in preparing Anatomical specimens is well known. — it combines with the albuminous tissue forming compounds with susceptible of change under ordinary circumstances — hence it is, that the bodies of persons killed by poisoning with this substance remains for years unchanged and long after the circumstances have been forgotten, and all suspicions removed, and while the destroyer was enjoying the possession of his victims, the body has been subjected to chemical analysis affording the most convincing proof of a violent and distressing death. Certain detection awaits the wretch who thus unwittingly embalms the evidence of his guilt:

"For dead men will tell tales"

Donaghy



IV.

Dissertation
on
Intermittent Fever.

By
Lucius Dwight Latham,
of Holland,
Candidate for the Degree of Doctor in Medicine.



Intermittent Fever.

This disease derives its name from the fact that we have a regular course of fever which terminates and then there is an intermission. It is known also under the names of Fever *intermittens* and *Intermittent*. It does not generally appear fatal of itself, yet by a long and continued action upon the system, it seems to prepare the way for the introduction of other and more serious diseases. This disease seems to be now and to be confined to portions of country that have been more recently settled, and we find more or less of it in places that have been settled for a long period of years.

It is divided into three stages, viz: the cold, the hot and the sweating stage, and the three stages are characterized by the following symptoms.

~~First~~ The Cold Stage This stage is ushered in by a transient sensation of cold along the back, which extends to the throat, and abdomen.

The fingers and feet lose their natural temperature and feel slightly benumbed.

The skin becomes pale, and contracted and rough. This sense of coldness finally pervades the whole body and there is a slight trembling of the muscles. There is loss of voluntary motion. The patient soon becomes restless and is soon tired of the same position. His ideas pass with unusual rapidity through his mind. He is incapable of fixing his attention upon any particular object. There is an unusual irritability of mind or ill temper. The pulse loses all activity and size becoming small, contracted, frequent and firm. Respiration is quick, anxious and oppressed, and frequently accompanied with a short and dry cough.

The patient generally complains of pain in the head, back and loins.

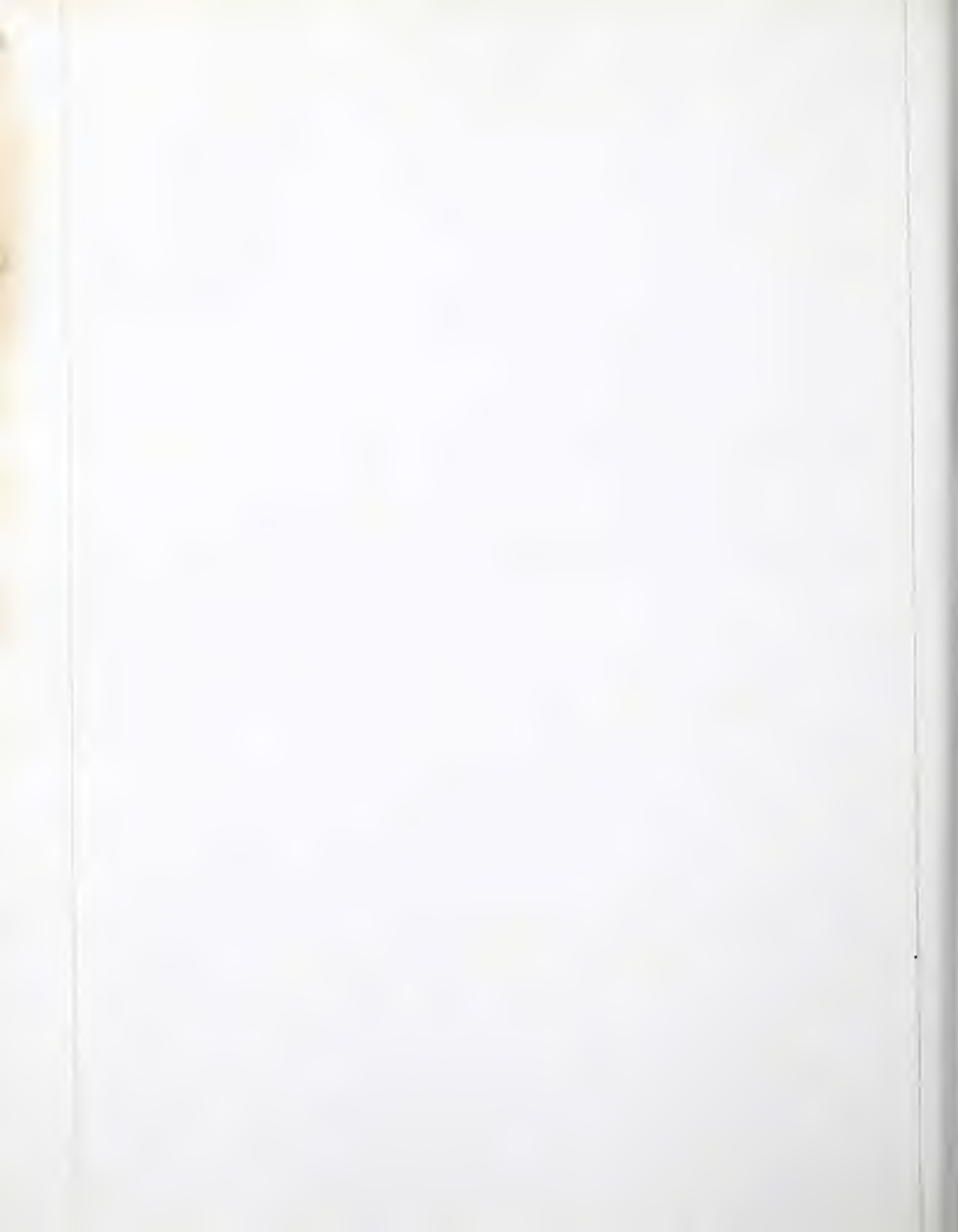


There may be a free discharge of urine, generally there is but little, and it is pale and aqueous; the bowels are confined, and the tongue dry and white. In the more severe forms there may be stupor, coma or delirium and not infrequently in a quick country the patient dies in this stage.

The cold stage generally lasts from one half to four or five hours. Sooner or later however the chills begin to abate, transient flushes of heat pass over the face and head, the chilliness recedes rapidly, and the heat comes on step by step until it has obtained an entire ascendancy.

Second: The Hot Stage. It is characterized by a hot and dry skin and sometimes hunger; the face is flushed and swollen, the thirst urgent, the tongue parched, there are restlessness, general uneasiness, and oppression at the praecordia. the respiration is hurried and anxious. The patient generally complains of a cute ^{pain} in some region of the body.

generally in the head and lumbar region
very often also in the thorax and left hypochondrium. the pulse becomes full and strong, as well
as rapid; the urine is still scanty but high colored. The duration of this stage varies more than
the former. It usually continues from four to
twelve hours and terminates in perspiration.
but sometimes the febrile symptoms continue
for several days or weeks when the disease is
termed a continued fever or there may be
remissions, it is then termed a remittent fever.
Third. The Sweating Stage After the hot stage has
existed for some time it terminates in the
sweating stage. The perspiration appears
first on the forehead, arms and legs, soon
becoming general and profuse. The patient
then experiences great relief, the thirst ceases,
the tongue becomes moist, the urine plentiful
but turbid, the pulse regains its natu-
ral fulness, force and frequency; the joints
part and by and by when the sweating termi-
nates the patient is as well or nearly as well as



ever. As a general thing these stages follow each other as before mentioned, but sometimes there is a deviation from this rule. Sometimes the cold stage occurs and is never followed by the hot, or the hot stage may occur without any previous cold stage. When we thus see that a supposed cause is not always followed by the effect and that the effect is sometimes produced without the agency of the supposed cause, and the effect not ^{or} proportioned to each other, we cannot but conclude that the supposed cause is at most but a partial and accessory one.

We can more easily conceive how the hot stage may conduce to bring on the sweating stage.

The stronger action of the heart and the more forcible propulsion of the blood will fill the superficial vessels and in this way the natural secretions may be restored.

We see the same thing happen when the force of circulation is increased by exercise. the extreme vessels receive a larger proportion of blood and sweat ensues.



There are many curious facts to be observed in respect to the paroxysm of intermittents. The paroxysm returns. There is also what is called the intermission and interval of intermittents. By intermission is meant the time that elapses between the termination of one paroxysm and the commencement of the next. The interval is the time between the beginning of one paroxysm and the beginning of the next. There is also another curious fact viz: that the intervals vary in different cases and upon this circumstance is founded the following division. First the Quotidian. In this type the paroxysm occurs at the same hour daily.

Second. The tertian. Here the paroxysm occurs at the same hour every other day.

Third. The quartan which occurs every third day.

The intervals of these stages is as follows. In the first twenty four hours in the second thirty six hours and in the third forty eight hours.

The different types have particular times in the day for their commencement; thus the paroxysm of the quotidian begins in the morning.

the tertian at noon while those of the quartan usually come on in the afternoon. There are however some variations from this rule as there are in all in all others. If the paroxysms do not occur until after their usual time it is called, 'postponing' if earlier than usual, they are said to anticipate. As this disease abates the paroxysms occur later and later until they finally disappear. The different types vary also in their duration of their paroxysm. The quotidian lasts about twelve hours so that the intermission would be about the same. The tertian lasts from six to eight hours here the intermission is considerably longer. The quartan does not exceed six hours. Of the three types mentioned the tertian is the most frequent. There are also some modifications of the types mentioned. A paroxysm may occur daily and yet the type not be of the quotidian type, but of the tertian. The paroxysm of one day may differ from those of the next and exactly resemble that of the third and the paroxysm of the second will be like that of the fourth. The paroxysms of the two consecutive days will come on at different hours and will differ in duration and severity.

This is usually denominated the double tertian.
There is also what is called the tertiana duplicata
in which two fits will occur on the same day, one in the
morning and the other in the evening and these occur
every other day. It is a form of double tertian. There is
also the quartana duplicata, but as it is a rare disease
in the Northern latitudes, I will not stop to describe it.

There is also a change of type: thus the quotidian
may change into the tertian and the tertian into the
^{quotidian} quotidian. The quartan may change into either the tertian or
quotidian. The paroxysms will vary sometimes
in their appearance. They may appear earlier and
earlier each day or later and later. If it appears in
the latter form we generally conclude that the
disease is growing milder. If in the former we con-
clude that it is growing more severe. The post-
ponement or anticipation of the fit has a
close relation to the paroxysm. Persons are more
frequently attacked with this disease in the spring
and autumn (says Dr. Watson) and hence are called
vernal and autumnal intermittents. As far as I
have been able to judge from observation this disease

occurs also rather more frequently in the summer than it does in either Spring or Fall. Although this is a disease to which we are liable that live in tropical countries yet we find much more frequent instances from the age of eight to thirty years have seen it in younger persons. It occurs also rather more frequently in males than in females. The probable reason of this is that they are much more exposed to the exciting cause whatever it be. Having now given an account of the different stages and the different forms of each stage, let me call your attention to the causes of intermittents.

I shall divide them into two, viz: the predisposing and exciting cause, and first the Predisposing cause. And under this class debility may be considered one of the most important. Now when here, how do we know this. I answer that persons have been exposed to the exciting cause for months even without taking it, yet when they have met with some cause to impair and break down the constitution, they have almost immediately been attacked with Intermittent Fever. The strongest predisposing

cause however is the disease itself. A person who has once had the disease will in all probability have it again especially if he remains in a malarious country. The disease leaves the body in a condition in which other injurious influences may or themselves be sufficient to cause it. At times, in fact, a new series of exciting or rather re-exciting causes. Watson remarks that if a person were never exposed to Malaria he would never have a quinine fever but he may many times have it again although he should never again be subjected to the direct influence. I think however that the malarious fevers or intermittents without the influence of Malaria for they have been known to occur from striking of the malarious.

Second. The predisposing cause, which is malaria. It was formerly known under the name of Marsh Miasmata, from the fact that it was supposed to exist in no place except in marshy or wet places. I have said that we call the predisposing cause Malaria. We call it that because we do not know what else to call it.

We are not certain what the true cause is. It is supposed to be some substance floating in the atmosphere and that it proceeds from the surface of the earth cannot that it is either gaseous or acrid.

We have never been able to perceive it with our senses. Of their physical or chemical effects we know nothing for no person has been able to make an examination of it. The atmosphere where it exists has been analyzed but found to be no different in its composition from atmosphere in places free from it. We know nothing of it except by its effects. It is necessary that there should be a certain degree of temperature for this miasm to exist. It is not found in the extremely cold countries, nor does it exist in the in the cold seasons of temperate climates. The nearer we approach the equator the more abundant violent and pernicious does the poison become when it occurs at all. Another thing is necessary to produce Malaria. It requires moisture. But the two mentioned (warmth and moisture) are not enough to produce it alone. We must have air and earth.

Intermittents generally occur after there has been some severe rain producing a great degree of moisture and even flooding, and this followed by drought or the drying up of the marshy places.

It is thought that intermittents are more frequent in dry than in wet seasons. There are some habits and properties peculiar to malaria. It is usually considered to be much more dangerous at night than in the day time. The reason for supposing this to be the case is, that different persons have been exposed to the same cause by day and part remain subject to the same cause at night have taken it, while those not exposed have been perfectly free from it. It is also supposed that malaria has a tendency downwards from the fact that those persons that have slept on the ground and in the lower rooms of houses have been more frequently attacked with it. It is also said that it is moved by the wind. There is a remarkable fact connected with malaria, viz: that it is removed by cultivation: In nearly all, if not quite, of the states during their earlier settlements, intermittents prevailed.

It is so now in the newly-settled states. Still all of the fevers are of the intermittent form. Where intermittents are frequent typhus fever and the pulmonary diseases are less frequent, but as the settlers clear up the country, intermittents begin to disappear and the above diseases appear to supply their place. Post Mortem appearances.

When death occurs from this disease, (which as it has been said) is very rare in this latitude, we commonly find some enlargement of the spleen. In the stomach inflammation and ulceration of the mucous membrane of the alimentary canal. The vessels of the brain are sometimes gorged with venous blood and the carotids after passing into the skull may sometimes be seen greatly distended with black blood. The liver is also sometimes gorged with blood.

Prognosis. In the northern latitude I think I may say that it is generally favorable, provided the patient was in comfortable health previous to the attack. If previous to the attack the

patient was subject to any serious organic or local disease, or if the patient be debilitated, this disease may destroy him. But if a person is in a moderate state of health we may generally promise a cure. At the south however it is much more dangerous and even sometimes immediately fatal. They are often accompanied by most severe affections of the head. Stupor, delirium, convulsions, and of the alimentary canal, diarrhoea, sickness and not infrequently the blood vomit. This disease is more difficult to cure if it has been present a long time. It is probable that a person would recover after a while without medical treatment if he were to be removed from under the influence of Malariae, but when we have such efficient remedies for the cure of this disease it would hardly be necessary or prudent to wait for nature's course, but to assist her in her operations.

Treatment. In the treatment of this disease it may be said that almost every thing in the Materia Medica has been tried. One physician has adopted one.



course of treatment and another physician another course. In the cold stage the patient should be put to bed, covered up warm and some warm diluent drinks as simple barley water, toast and water, weak tea, gruel and wine when they may be used. External warmth should also be applied to the extremities. A bottle of hot water or a hot brick covered in flannel may be applied to the feet. Opium, blood root and emetics have been used but as a general thing I think they are rarely needed. There are circumstances however in which their use is of vast importance. When there is much coldness accompanied with much pain or nervous disorder, opium or an equivalent dose of one of its preparations will be of great benefit. Bleeding has sometimes been resorted to to cut short this stage.

During the hot stage, the patient should be placed up on a refrigerant treatment. We should be allowed cold diet in such quantities not to oppress the stomach. The effervescent draught given every hour or two is a good remedy. It soothes the stomach, diminishes fever, promotes perspiration and favors a solution of the paroxysm. If there should be a full, strong and hard



pulse with severe pain in the head or pain in any other leading to the suspicion of inflammation it may be proper to take some blood. When the system is feeble and especially when there is a tendency to a Typhoid condition of fever the powder of ipeca and opium in doses of ten grains is an excellent remedy. Opium has been much used in this stage. If there is dryness of the skin, the body may be sponged with cold water.

All that is necessary in the sweating stage, is not to have the patient exposed to cold.

Treatment of the Intermission. It is here that we expect to receive our greatest benefit. Bark (or its extract & Sulphate of Quinine) and Arsenic are our most efficient remedies. The quinine is a diaphoretic to persons of weak constitutions while Arsenic is better in those of a stronger constitution. Before beginning a regular plan of treatment it is better to wait until the type is formed. Previous to the use of quinine, it is better to prepare the system by administering some purgative. A very good one is composed of three grains of Calomel and seven (grains) of rhubarb at bed time and then begin with the Sulphate Quinine in doses



of one or two grains once in one or two hours the following morning. Some prefer giving large doses just before the expected ^{time} the paroxysm. Decoction of wild cherry bark has been recommended by some physicians as a valuable remedy. It is used as a drink between the administration of the quinine. When arsenic is used, it is better to administer it in the form of Fowler's solution. The dose is from five to ten minims three times a day. The decoction of willow bark, the web of the black spider and the ferrocyanide of iron have also been used. When there is disturbance of the digestive organs as nausea, flatulence, hiccup &c. Charcoal has been found to be a valuable remedy. Another mode of treatment is the following. Evacuate the stomach with Tartar emetic and the bowels with Calomel and oil and then give a pill containing four grains of opium about an hour before the paroxysm. Between the paroxysms give a pill composed of Myrrh and Sulphate of zinc each one grain.

L. V. L. 26



V.

Dissertation
on
Pleurisy.

By
Silas Foster Lindsey,
of Union.

Candidate for the Degree of Doctor in Medicine.

Pleurisy

Before entering upon the subject of pleurisy (which is a disease affecting the serous membrane covering the lungs, and lining the thoracic cavity), we will take a cursory view of ^{the} anatomical structure of the thorax and pleura; the thorax may be compared to a flattened cone situated at its base and regularly truncated at its apex. It is formed by the dorsal vertebra behind, the sternum before and the ribs on the sides; This osseous structure is covered on the sides by the intercostal muscles, by the diaphragm beneath which separates

the thoracic from the abdominal cavity except the vacancy through which the aorta vena cava and the oesophagus passes, the only outlet which is above is formed by the upper ribs first dorsal vertebra and sternum. The cavity of the thorax nearly resembles two half circles, the vertebra project inward so as to diminish the space between them and the sternum. The ribs also project backwards increasing the lateral dimension of the cavity of the thorax. The diaphragm as it is seen looking from above downwards has the appearance of a hemisphere placed obliquely with its convex side looking upwards. The anterior margin being much higher than the posterior margin which is attached to the eleventh and twelfth ribs while the anterior margin is attached to the seventh and eighth. This cavity contains two of the vital organs viz the lungs and heart, these or



organs are covered with a serous membrane
the membrane which envelops the lungs
is called the pleura; that which encloses
the heart the pericardium. The lungs
occupy the two lateral cavities of the
thorax while the heart occupies the inter-
mediate space just back of the sternum.
The pleura after covering the lung ex-
tends backward, on the thorax to the
spine. Then leaving the spine it pro-
ceeds forwards towards the sternum.
Each pleura proceeds in the same way
forming what is called the vertical
septum or mediastinum. There are two
mediastina the anterior and posterior.
The heart with its investing membrane
the pericardium occupy the space between
the two mediastina. The portions of the
pleura which lines the parietis of the chest
is called pleura costalis that which covers
lungs pleura pulmonalis. The arteries
which supply the pleura are the intercostal

internal mammary phrenic and inferior
thyroid the veins correspond with the arteries
the pleurae are situated so that the two ex-
ternal serices are in close apposition and
consequently at every expiration and inspira-
tion there is a gliding of the pleura cas-
talis over the pleura pulmonalis;
these membranes in health secrete a
small quantity of serous fluid to lubri-
cate the two serices and prevent friction
'We will now consider some of the symptoms
of pleurisy. At the commencement of this
disease there is frequently present febrile
symptoms such as chills followed by
heat of skin frequent pulse loss of appetite
furred tongue scanty urine the fever in
the commencement is often very high
and sometimes undergoes a daily remis-
ion ^{and} exacerbation the chills occurring in the
morning the fever in the evening
The pulse is frequent full and hard it is
also remarkable for its hardness this is a



diagnostic sign to distinguish pleurisy from pneumonia the pulse we know in pneumonia are soft and frequent—

Pain is one of the first characteristics signs of pleurisy. The pain commonly situated in the side usually referred to below the breast at lower edge of the pectoral muscle being described by the patient as though a knife were thrust into the side; lancinating, staking, &c increased by inspiration by coughing and often by pressure; the inspirations being short and frequent, and all attempts to cough will be repressed by the patient as much as possible.

The duration of this pain is various it may extend through the whole course of the disease & be diminished in the course of five or six days. The pleuritic attack is variable in regard to its situation, duration and severity it is referred to the axilla shoulder or beneath the

clavicle sometimes it extends over the whole
hypochondrium and has been mistaken
for inflammation of the peritoneum
it has also been mistaken for a sign of
peritonitis. Laennec says that it is not un-
common to have the pain pass to the other
side without any transference of the in-
flammation occasionally even from the
beginning of the disease we have the stitch
on the left side and the pleurisy on the
right. There is one way of distinguishing
pain of pleurisy whatever be its situa-
tion duration or severity it is always
aggravated by a deep inspiration cough-
and intercostal pressure, and may often
be suspended by holding the breath.

Respiration

The respiration in
pleurisy varies in different cases. In the
commencement it is generally more
or less difficult or embarrassed in con-
sequence of the pain produced by a full

expansion of the lungs the inspiration stops short before it is completed

After effusions have taken place the dyspnoea arises from compression of the lung by the effused fluid. To keep air enter the lungs the patient is obliged to increase the number of respirations in a minute in order to properly aeriate the venous blood. The respirations are about 14 to 18 alternations in a minute and the respiratory movements bear a proportion to the contractions of the heart as 1 to 3 or 4 $\frac{1}{2}$ when this proportion is disrupted from we may suspect some disease of the respiratory organ or heart.

It is not certain after effusions that the dyspnoea will remain troublesome

Andral states that there are persons with pleuritic effusions enough not merely to fill but to dilate that side of the chest in which it exists who appear nevertheless to be quite free from dyspnoea

André further affirms that this absence of dyspnoea is not restricted to those cases in which the collection of fluid, ^{has} taken place slowly but sometimes happening even in patients in whom pleurisy has led to abundant effusions in a few days. In dyspnoea may be stopping for a time, then the system will accommodate itself to the diminished inspiration and the forced lung will perform the work of both without much inconvenience, I saw a case where fluid effusions had taken place to the amount of four Quarts merely; nevertheless the patient could walk about without much difficulty of breathing. In some cases the dyspnoea never ceases to be troublesome in others it may remain facile through the disease. hurried respiration and dyspnoea are not certain indications of pleurisy: in pneumonia we have dyspnoea or likewise in inflammation of the heart, the res



piration is hurried as every time the diaphragm descends it presses upon the viscera of the abdomen causing pain in inflammation of the lungs the expiration is performed by the intercostal muscles & serrati and other muscles in pleurisy it is performed by the abdominal muscles
Cough

The cough of pleurisy when present is characteristic of the disease and not likely to be mistaken. It does not occur in paroxysms as in the cough of pertussis which is characterized by a suffocating convulsive cough terminating in an excretion of thick glary mucus nor is it likely to be confounded with the cough of phthisis which occurs in the morning is dry and hoarse as if caused by an irritation about the throat. The cough of pneumonia is a short ineffectual hack half suppressed by the patient on account of the pain which it



causes is dry or is accompanied with cuter hab
expectoration if the expectoration is mucous
or frothy we may fear bronchitis or if
ruled pneumonias but in all cases
there will be other diagnostic signs when
any thing is complicated with pleurisy
Positional comfort

The position which the
patient occupies varies with the progress
of the disease when first taken they gen-
erally lie on the sound side on account
of the pains after effusions have taken
place and the lung becomes compressed
and chest dilated. The patient lies on the
side that is diseased if he were to lie on the
sound side the weight of the fluid would
have a tendency to compress the sound
lung. In some cases the patient lies on the
back but must come only to lie on what
may be called the diagonal posture whether
on the back or side, but on his back re-
clining on his side

We have thus far been treating of the formation of the cavity of the lung and some of the symptoms of pleurisy viz pain, dyspnoea, cough and position of the patient, We shall in the next place proceed to trace some of the physical signs of pleurisy.

The first signs we shall consider are those indicated by the stethoscope we hear a ~~low~~ ^{low} ~~breath~~ ^{breath} ~~sound~~ ^{sound} ~~in~~ ⁱⁿ ~~the~~ ^{the} ~~chest~~ ^{chest} ~~which~~ ^{which} ~~is~~ ^{is} ~~due~~ ^{due} ~~to~~ ^{to} ~~the~~ ^{the} ~~friction~~ ^{friction} ~~of~~ ^{of} ~~the~~ ^{the} ~~two~~ ^{two} ~~pleurae~~ ^{pleurae}. This sound is seldom heard except in cases of dry pleurisy, where the opposing surfaces have taken place and may last for a length of time. After effusions have commenced the vesicular rustle diminishes in proportion as the effusions increase. Generally at the commencement of this kind of effusion the fluid filling the chest and causing a dull sound on percussion which is decreased first at



the lower part of the lung, and extends
up as the effusions are more or less
abundant. The fluid may be effused to
the amount of several pints in a few
hours. Therefore it is of the greatest impor-
tance that the disease be recognised in the
commencement. The upper lobes of the
lungs are not covered with fluid un-
less the effusions are ^{very} copious.
Sometimes owing to old adhesions the
lower lobes may sound clear, in most
cases if a part of the chest is clear the
dullness will shift by shifting
the position of the patient. The fluid
flattening the lung causes a dull sound at
the most depending part. The lung as
the accumulation increases contracts
the air is expelled and ceases to permeate
the organ. I have seen cases in which the
lung was compressed so that it would
sink in water and had the appear-
ance of being solid.

Another sign is the enlargement of the diseased side, when the accumulations are not copious it is not perceptible however when small effusions have taken place they may be detected by actual measurement, passing a tape around the chest and doubling it up on itself you will find that half of the tape will more than reach round the sound side and will not extend around the diseased side, so also passing a tape round fixing it at the shoulders and passing probes of the dorsal vertebra at every alternation of breathing no improvement will be seen to tighten and slack and it will be more obvious on the sound side, the diseased side remaining partially distended, it must be recollected in making comparison and actual measurement that the right side ~~is~~ ~~the~~ is the largest in most patients

the difference can frequently be detected
by the eye the diseased side rising
with inspiration but does not con-
tract nearly as much with expiration
as the sound side In some cases where
there is copious accumulation the heart
and other organs will be displaced by the
pressure of the fluid Thus for instance
if the effusion is in the left side the
heart may be felt to beat on the right
of the sternum instead of to the left the
cartilages of the fourth and sixth left
ribs" so also if the effusions are on the
right side the liver may be displaced
so as to be far below the ribs and sim-
ulate a tumor in the abdomen and
says Dr Williams we have known
more than one case of tubercular pleurisy
in which this tumor was long sup-
posed to be the chief disease the patient
not complaining at all of the chest"
The heart may be pushed out of its nat-

ural position further to the left side of
the chest. When the mediastinum is dis-
placed it may be distinguished by percus-
sion on the ~~chest~~ ^{system} which if the patient is
in there natural position sounds clear
but if the mediastinum be crowded to
either side the heart will give a dull
sound this sound may extend half
an inch or an inch to either side.

All these symptoms may be produced
by pneumothorax this will be easily
detected by the tympanitic sound on
percussion, another valuable sign of
pneumothorax when present is respiration
we hear a splashing sound by placing
the ear on the side of the patient and
giving him a sudden jerk or jog this
sign is a very unequivocal one when
present and not likely to be mistaken
the early and characteristic effect of pleuritic
effusion is the interruption of the vibratory
thrill which as Dr Watson says is readily

perceived by even ^{the least} instructed observer."

This vibratory thrill in most persons may be distinguished by placing the hand flat on the surface of the chest during the motion of the lungs in respiration.

If the voice of the patient is deep to nasal or bass the vocal vibrations may be felt very distinctly. The high notes are not so easily distinguished, as in females with high voices, it is the opposite of Egophany which is heard in females and those who have high voices the high tones of the voice penetrate the smaller bronchial tubes, but the low bass voice is limited to the larger tubes and if strong produces in the lung a trembling sensation which may be easily distinguished as the effusions increase and separate the pulmonary from the costal pleura the vibratory thrill will become indirect and the sign is not always to be depended upon, if there is adhesion of the lung



to the parietes of the chest the vibratory
gas will be augmented and increased be-
yond its natural degree so also in con-
solidations of the lung the vibrations are
felt in an increased degree unless there be
distention in the bronchi ^{would} ~~be~~ ^{be} ~~be~~ ^{be}
out in any

Egophony is a sound which is called
Egophony a gut sound or a hoarse sound
It is heard most distinctly in the
space between the third and sixth ribs
which correspond to the middle sized bron-
chial tubes near the apex it is generally
mixed with a louder and more uniform
resonance which is common bronchophony
from the larger tubes at the root of the
lung. Says Dr Williams two circumstances
are remarkable in egophony first that the
voice is more audible at the very spot where
the lung is pushed away by the liquid
in consequence of the liquid by compressing
the porous tissue of the lung enabling it



to transmit better the sound of the voice
from its interior. The second point is that the
voice is altered in character. This may be
supposed to be caused by the nature of
the matter which it has to pass through
a thin layer of liquid, which being thrown
by it into regular vibrations, then the
sound changes now checking the sound
now transmitting it with increased
force so that the voice comes through
rumbling and muffled.

Chronic Pleurisy

The beginning of chronic pleurisy is not clear
in many cases, the patient is seized with
an attack of acute pleurisy in a mild
form the true nature of the disease had
not been discovered till after it has
passed. The patient is seized with an attack
in a severe form the disease which had
been latent is aroused in all its fury.
Generally in acute pleurisy the attack is
not accompanied with high inflammatory fever

while in the chronic form there is absence
of fever or it is of a hectic kind, sometimes
a chronic form of pleurisy is seen ^{which} in
the patient has no recollection of a ^{very}
distinct acute attack in fact we ^{frequently} find in
post mortum examinations adhesions of the
two pleura to each other showing that the
patient has had pleurisy in some former
period of life Dr. Hocker thinks that the ma-
jority of persons over twenty five years old
have had pleurisy although they may
not have been aware of it themselves
The patient does not always have pain in
the side during this disease

Morbid Anatomy

I have omitted giving a description of the
morbid anatomy, as till we had gone over
some of the symptoms It will be recollected
that in the commencement of this subject
we gave a brief description of the pleura as seen
in health we now must consider it as seen
in "post mortem examination" & shall find



The products of inflammation of the pleura is the depositing within the cavity of the pleura of some fluid and coagulable lymph. This fluid (which is in its natural state a thin watery fluid with a light straw colored appearance) becomes organized and forms what is called false membrane. This membrane has its blood vessels and absorbs and secretes, and in some cases forms a cavity upon the surface of the pleura. The deposition of coagulable lymph forming a coating upon the pleura. This membrane is sometimes cartilaginous and partly composed of considerable thickness and binds down the lung preventing it from expanding after the pulmonary disease is removed. In other cases the membrane appears as a thin white substance, it is said by some that the secretion of the fluid takes place from the surface of the lung and from the surface of the false membrane is a projection to the

inflammation, again we may find the costal and pulmonary pleura firmly adhered entirely obliterating the cavity or they may be bound down by bands of coagulable lymph the intervening spaces being occupied by serous fluid.

The alterations which take place in the pleura are not very obvious in the beginning of the inflammation the membrane appears red and is vessels are slightly enlarged.

The secretion from these vessels is at first diminished but it soon begins to be increased action of the vessels to pour forth an increased quantity of blood. It is in some cases profuse in amount, which as I have stated before may amount to several pints or even quarts in a few hours from the attack. It has been thought by some that the effusion was absorbed by the lungs but this is not the fact it will be found lying above and to the spine enveloped with fat in the lungs sometimes compressed so



as to be entirely devoid of air and does not
crepitate under the finger. It is however capable
of being resorbed by absorption. As its
cellular structure be distrid, thus it is said
to be cranified

Empyema

The name of empyema was originally appli-
ed by the ancients to any collection of puri-
lent matter, as used by modern writers it
is restricted to effusions into the pleura only
Empyema has not many distinct signs
they are in common with the signs, when
there is serum or lymph effused but in
a more increased degree, should be taken
over or constitutional disturbances be present
it is quite certain that the effusions are
purulent, however purulent effusions may
take place without fever, and without
disturbance or hectic

It is a general law that purulent matter sent
up in any of the tissues of the body tends
towards the surface, as a rule having a





be a solid substance the color of sulphur
collected hydrogen and with this change in the
discharge there is increased constitutional
disturbance sometimes manifesting
itself in profuse sweating profuse
sweating profuse and hot profuse sweating
disturbance with colligative sweats sometimes
producing typhoid symptoms and a gen-
eral state of depression if the pass be disch-
arged through the system it is
distinguished by the violent cough and
distress which it creates"

Cause of Pleurisy

We think... We think
that any thing which weakens the body
liable to inflammation, a relaxed or
debilitated state of the system, ex-
posed to cold & winds tend to excite pleurisy
We think it is produced by the
inflammation of the chest and various other
injurious causes this disease De la Roche
thinks that the location of the lungs is



among the most fruitful causes of
pleurisy, the thinking they act by direct
injection from the direct continuity
to the pleural cavity. The danger of
the mother of pneumonia through an ob-
scured passage into the pleural cavity.
Inflammation of the lungs may be prop-
agated to the pleura by direct extension
or by a lymphatic vessel. The vessels
of the heart are frequently found serious-
ly diseased in the pleural cavity.

Diagnosis

Formerly it was not
thought possible to distinguish
between pleurisy from pneumonia it was said
that they were all pneumonia and required
merely the same treatment, but
we know that it is of the utmost impor-
tance to distinguish between the two
diseases for in pleurisy we may have
of liquid in the chest it is a ^{small} amount
and must be removed by tapping the



absorption and prevent the further effusion of the fluid at the commencement the diagnosis is somewhat obscure we must look to the general symptoms, it is unnecessary to enumerate them as they have been considered before, as the disease advances the diagnosis becomes distinct chronic pleurisy is confounded with phthisis more often than any other disease as the symptoms of the two are nearly alike and it is considered that it is a diagnostic mark of phthisis, where a patient is liable to have pleurisy from slight causes.

The next diseases with which pleurisy is likely to be confounded are inflammation of the intercostal muscles, pleurodynia or pericarditis.

Prognosis

We may give a favorable prognosis if in the commencement of the disease remedies are promptly used & applied. If not, but if the remedies have been

delayed or not administered judiciously till
after the effusions are copious or if at the same
time the patient be of a scrupulous habit,
or has any deposits in the lungs, we may
fear a fatal termination. If the effusions are
of a purulent character or the disease attack both
pleurae at once the probable termination
will be fatal perhaps says Dr Wood the most
frequent cause of its obduracy is the existence
of tubercles in the lungs.

Treatment

The treatment of
pleurisy is similar in some respects to the
treatment of active inflammation of
other organs. In the commencement of this
disease while the patient has sharp pain in
the side difficulty of breathing and perhaps
a tight cough it is treated much as usual
I would here remark that pleurisy sometimes
occurs and runs its whole course without
pain cough or sensible dyspnoea
But according to the age and strength

of the patient is one of the first and best
remedial agents which can be had recourse to
and this should be so managed as to over-
come the arterial excitement. Dr. Watson re-
marks if you see your patient with the pulse
is in the side and the respiration and circulations
expiration is present, you will bleed him
the patient posture place a large cup
untill the pain is relieved and he can rea-
th with any or is reluctant to breathe

Prof. Dr. Wood few diseases bear bleeding but
for a full for it more strongly than usual.
pleurisy The patient should be placed in
the erect position and the blood allowed
to flow untill a decided impulsion is
made upon the pulse or faintness is pro-
duced, from twelve to twenty four ounces
may be taken at the first bleeding
in right S. population a bit. In
amputation at the onset so much as enhance
the safety of the patient should the breath-
ing become difficult in a person should



about again if I thought the patient would
bear it, or cup the side or apply leeches.

Leannee says cupping in these cases is in
my opinion preferable to leeches. He thinks
the blood is abstracted easier quicker and
softer than by leeches.

The internal remedies are the next thing, it
which assist the lancet such as brisk purge
tives antimony and mercury.

Tartar emetic is less effectual in this disease
than most other diseases of the chest, some
practitioners think it not adapted to pleurisy.

Leannee however thinks Tartar emetic in
large doses is commonly very well borne by
patients affected with pleurisy and he
says I am in the habitual employment
of it in this disease. It not only produces
in most cases speedily to subdue the in-
flammatory action and does away with
the necessity of abstracting so large a quan-
tity of blood, it should be restricted to the
inflammatory stage.



Nutrient in combination with fumes speeded is recommended, merely given with a view to its specific effect in the constitution is in small and repeated doses. Grounded by opium is recommended by Dr Watson, brisk saline purgatives are used in some cases with benefit.

The sick by these means to take off the edge of the disease, after this is accomplished and fluid is effused and treatment will be directed to prevent the absorption of this fluid thereby causing a double species of anasarca, opium to 1. 6. 15 grains and prevent the colic from passing off too freely by the bowels is highly extolled by Dr Williams. If the patient has a violent affection of the chest great benefit may be derived from colchicum in all doses, but in the case of the heart, the action of the bowels is promoted, the flow of urine. Dr Hooker is much estimation in this disease to,



promote absorption with great advantage
given in small and repeated doses
Stimulative emmenagogues also spirits turpentine
has been used with advantage to promote
absorption. Binders in this stage form
a valuable auxiliary to the other articles.
The diet must be of a spare light kind
and the patient must be restricted to
it as much as possible. If the patient is
resting, stimulants, if the patient is
tired is indicated the patient may have
a more full diet and be allowed to sit
up and take gentle exercise.

If the disease assumes the chronic form or
if the patient is weak and debilitated,
should the patient's strength diminish or
if the symptoms be persistent a more
and nutritious plan may be adopted.

I would recommend when hectic symptoms
appear to use cod liver oil in small
doses, to administer acids and the compound
Sulphate of iron sulphate of quinine



external counter irritation should be used
The hydrochlorate of Potash is a powerful
nervine may be found found usefull Dr Stokes
recommends it both internally and externally
in the form of Gargols mineral water.

The best of Iodine is recommended as
medicine is apt to cause unpleasant symp-
toms by the presence of free Iodine which we
know is apt to be set free meeting with water
in the stomach the iodine is precipitated this
causes severe gastric symptoms These un-
pleasant effects may be obviated by giving
some starch after each dose or allow the
patient to eat a bit of bread the starch
of the bread meeting with the Iodine forms
Iodide of starch we know that Iodide of starch
is used when it is disagreeable or necessary
to give large doses Dr Bland remarks
that by means of the starch the Iodine is
converted into hydroiodic acid and in this
form of combination enters the circulation
The various other means that will be



found adapted in different cases under
different circumstances but I must omit
them for want of time, as I fear I have already
wearied your patients. Another means of
removing the fluid is by puncturing the
side and drawing off the liquid or purulent
matter. I do not propose to consider this
part of the treatment for want of time
but must refer the reader to the books
for the operation of paracentesis thoracis

Edinburgh 1825



—
VI.
—

Dissertation
on
General Etiology.

—
By
Roger Smith Olmstead,
of New Haven,
Candidate for the Degree of Doctor in Medicine.
—



General Etiology

In the consideration of this subject - I wish to remark at the outset - I desire to make no pretensions, either to Originality of Thought, or, to Elegance of Diction. The peculiarity of the subject & my own imperfect acquaintance with it - render it utterly presumptuous for me to lay any claims to the former; while the latter is entirely incompatible with my idiosyncrasy -

I have chosen Etiology as the subject of my Thesis, - from the inducements which it offers to its study - as a branch of Pathology - from the intimate relations which an acquaintance

with it entails to the formation of a correct & satisfactory diagnosis - thereby affording one & valuable indications for the application of Remedial Agents -

What then is Etiology?

It is that branch of Medical Science which treats of the causes of disease - i.e. - of the ^{& the solids} conditions under which, either the vital actions, or the vital properties of the fluids of the body become liable to deviations from their normal state - — Such being the definition & such the nature of the subject upon which we have entered - it must be apparent upon a moment's reflection that the successful prosecution of it depends upon & necessarily involves an acquaintance with the human body - 1st in relation to its organization & mechanism & 2^{ndly} ^{power} - in relation to that superior, by the influence of which this mechanism is actuated - the principle of life - through its mode of manifestation in the various functions or, in other words - of Human Anatomy & of Human Physiology -



Thus instructed, the Student is enabled, ^{to} comprehend the beautiful combination of physical principles coined by the human body; & to understand how they are directed by, & made subservient to life whether in perpetuating its healthy function or in guarding against agents threatening any of the functions & organs which it endows, or in removing derangements when actually produced. He is now prepared to consider advantageously, those derangements of function & structure with which the pathologist & practitioner are chiefly concerned & he thus ascertains that— the conditions of life as manifested in the functions either of a single organ, or of the frame generally, are liable to change from internal or external causes; & the resulting alterations modify the structures with which this principle is so intimately & mysteriously related;— & on the other hand, that, the states of the animal organs & textures are readily affected by agents acting directly upon their organization;— & that these states of structure



modify its vital manifestations, & through them, the vital endowment of the body generally.

Whenever, therefore, changes take place in the conditions of life, as manifested either in the functions or organization, that state of the animal economy supervenes which has been called - Disease - & it may be produced by causes acting sometimes singly, occasionally in combinations, & frequently in succession - To point out the nature & modes of operation of these causes - as far as their natures & effects are known, is the object here proposed.

I have already spoken of Life as that principle upon which the different textures are dependent for their preservation & the various functions for their healthy continuance; this is apparent from the readiness with which the elementary particles of that matter with which it is so intimately connected enter into different combinations & forms as soon as the principle is withdrawn. But further; - it has been inferred



from the gradual manner in which derangements are produced & from the nature & effects of the disorder which follows, that the causes of disease do not, usually, act primarily upon the textures & organs themselves, but that they make their first impression upon the vital endowment of the organ, disordering the functions which it performs under the dominion of Life; which functional disorder may lead to structural derangement & terminate in the restoration of the part to a state of health. — Some causes there are, undoubtedly, which affect at once the organization of the part, such as many chemical, physical & mechanical agents; but the majority modify the vital manifestations of the frame & thereby induce effects, which become themselves causes of further disease, until Life is terminated, & a healthy condition of function re-established.

This powerful influence of Life, then, over the functions of the organs with which animals are endowed, & the manner in which causes

modify the conditions of this principle, whether acting immediately upon it, or through the medium of the organization with which it is allied, are among the most important topics which interest the medical practitioner.

The Causes of Disease have been variously named & classified by Pathologists- They have been denominated External or Extrinsic & Internal or Intrinsic according as they operate upon the body from without or within - From their relation to disease they have been named Principal & Accessory or Concurrent - They have also been called Positive & Negative from the manner in which they act upon the body, & according to their nature have been divided into Physical, Chemical & Physiological - The division of causes, most generally adopted, however, at the present time, arises from the relation which they bear to the disease which follows & are termed Remote & Proximate - or by some Efficient & Constituent. The Proximate cause



has been defined to be - "illa quae praevenit
morbum facit, subleat tollit, mutata mutat."
- in short, the disease itself - It is not, therefore,
properly & strictly speaking, a cause - since it
is nothing more than the effect produced by
the action of those causes which have excited
the disease - but may be considered, rather,
as a pathological state arising directly from
the operation of the remote agents. -

The Remote Causes have been divided into -
- The Predisposing & Exciting - Predisponent & Occasional
- a Progenital & Procatartec - terms used by
some of the ancient authors. The first division
is made to include all those influences which
render the body liable to disease, on the applica-
tion of any cause capable of exciting it, &
to which the body may be accidentally exposed.
Or - in other words - Predisposing Causes are those
influences which favour the operation of those
occasional & Exciting Causes whence disease more
directly springs - To these two divisions some
writers add a third viz. Determining & Consequent

Handwritten text in a cursive script, likely a letter or a page from a manuscript. The text is written in a dark ink on aged, slightly yellowed paper. The handwriting is fluid and continuous, with many words and phrases that are difficult to decipher due to the cursive style and the fading of the ink. The text appears to be organized into several paragraphs, with some lines starting with capital letters. There are some small, dark spots or stains on the paper, particularly towards the bottom left corner.

Causes, — which being posterior to the others in point of time, determine or call into action the exciting causes, or rather come in aid of, & follow up the impression made by the latter, & which without such aid, might have been insufficient to produce actual disease, or would have induced it only in a slight degree.

I shall now proceed to enumerate some of those influences & circumstances which have been included under the head of Remote Causes of Disease; — & first, of the Predisposing Causes — They have been divided into three classes; —
— 1st such as are peculiar to individuals & the circumstances in which they are placed —
— 2nd such as are not peculiar to individuals, but which ^{affect} various persons, but individually & occasionally — & 3rd such as are general & affect more or less all who are exposed to them —
— The Individual Predisposing Causes are, 1st Hereditary Predisposition & Original Conformation; Temperaments & Habit of Body; — pursuits & circumstances of Life — & 2^{ndly} — Circumstances which

[The text on this page is extremely faint and illegible. It appears to be a multi-paragraph document, possibly a letter or a report, written in a cursive or semi-cursive hand. The ink is very light, and the paper shows signs of aging and wear, including some dark spots and a yellowish tint.]

modify the functions, - as previous functional disorder, & convalescence from disease; & the frequent & transient states. First, then, - Hereditary Predisposition & Original Infirmity. The matter of "Family-resemblance" - as it relates to the external conformation of body is one of every-day-notice & universally admitted - it has also been generally observed, that the constitutions - temperaments & diathesis of the offspring closely resemble the parent; & that whatever disposition to disorder, whether of function or structure, the latter may have possessed is liable to show itself in the former. From this circumstance having been very generally remarked in respect of certain maladies, they have been termed - hereditary - To this class belong Scrophula in its various forms, - certain diseases of the Brain & Nervous System - such as Mania, Apoplexy, Epilepsy, &c - But although there is an Hereditary Predisposition imparted from the parent to the child, it is still very rare that children are actually born with the disease of the parent - unless, per chance, we include under this



head certain contagious diseases, which being present in the mother contaminate the fetus in utero - such as Syphilis & Small-Pox - which diseases, cannot, strictly speaking, be considered as hereditary - Hereditary diseases, then, are not necessarily Congenital - The converse of this proposition is also true viz: - Congenital Diseases are not necessarily Hereditary - Since the fetus in utero is subject to affections which are purely accidental & do not depend upon the constitution of the parents, or the ailments experienced by the mother during the period of gestation - Congenital Diseases are consequently divisible into - those which occur in the fetus, without any participation on the part of the parents - as, imperfect development of organs, mal-formations - those in which the fetus participates with the mother, owing to their contaminating influence - as Syphilis, Small-Pox &c. & those that affect the fetus from a constitutional liability in one or both parents - as in the different forms of Scrophula - Nervous Diseases &c -

More commonly, however, the child is born free from disease; but inheriting the constitution & diathesis of the parent is, rendered susceptible to impressions produced by the exciting causes of various maledies - But these diseases do not necessarily ensue, although one or both parents have been affected by them - since, several usually appear in alternate generations - & others may be prevented from occurring by carefully avoiding those exciting causes required to develop them -

The Hereditary Predisposition generally manifests itself more strongly at certain ages than at others, according to the malarial constitution inherited, the causes which excite it, & the nature of the maledy which results. This brings us to the consideration of Age - which may itself be considered as a predisposing cause of disease - Each of the periods of life is more liable to certain diseases than to others. In early infancy, there is great sensibility in the Nervous system - manifested by Scaphelitis, Convulsions & other heat affections - The Dermoid tissue is, likewise, more susceptible to disease than



at any other period of Life - hence the most frequent diseases of Infants, have their seat in this system - such as Cutaneous Eruptions, Aphthae, Diarrhea, Cholera Infantum, Croup, Bronchitis &c - At this age the Hereditary Predisposition frequently manifests itself - as in Hydrocephalus, Convulsions, Idiocy, Rickets, Scrophulae &c -

After the first Dentition & during growth the powers of Life are energetic - as shown by the reaction of the vital functions upon the depressing causes of disease - There is, however, great susceptibility to impressions - & slight irritations are often followed by augmented vascular action & the whole frame is made to sympathize from the sensibility of the Nervous system - Consequently, at this period of Life, the predisposition is chiefly to inflammatory complaints - & to such diseases as are peculiar to childhood - such as, Pertussis, Rubella, Parotitis, Scarlatina &c -

About the time of Puberty - various complaints first make their appearance - usually, of an inflammatory character & to which there is an Hereditary

Predisposition - Tubercular disease of the lungs is often developed at this period & Scrophulous eruptions & Ulcerations of are not infrequent - From the Plethora which prevails throughout the system Hemorrhages are of frequent occurrence & Inflammatory diseases - such as Pleuritis & Pneumonia at this time not uncommon -

At the Age of Maturity - the organism has acquired its full development & performs the functions with harmony & vigour - Hence, a greater degree of resistance is presented to the various causes of disease, at this time, than during the preceding or subsequent periods of Life - The predisposition to disease, however, varies greatly in different individuals, & may frequently be discerned by ascertaining their peculiar habits, mode of life & Organic Diseases, are, at this period very frequent - & in fact, most frequent - with the exception of such as are Scrophulous - as - Rheumatism, Asthma, Dyspepsia, Urinary Calculi, Diseases of the Heart & of the Brain - & in the decline of Adult ^{common} age, various diseases of the Arteries & veins are most

At the final period of Life, or that of old age
the entire organization is sensibly deteriorated
- & all the functions are performed feebly & im-
perfectly - Hence we find at this period - Int.
Softening of the Brain, Apoplexy, Paralysis - Diseases
of the organs of Sense, affections of the Urinary organs &c.
& decrepitude is the result -

Most of the diseases which I have thus en-
umerated as being peculiar to the period of Life at
which they usually appear, are those to which
both sexes are equally liable - But the con-
formation & temperament of females, the sym-
metry existing between their generative organs
& the state of circulation in the Brain, the
marked susceptibility of their nervous system,
& great mobility of their muscular organs,
dispose them - especially those in cities &
populous towns - to various nervous diseases -

The changes which take place in the gen-
erative system also, frequently induce maladies
of a nervous or cachectic character. At the period
for the commencement of the Menstrual discharge

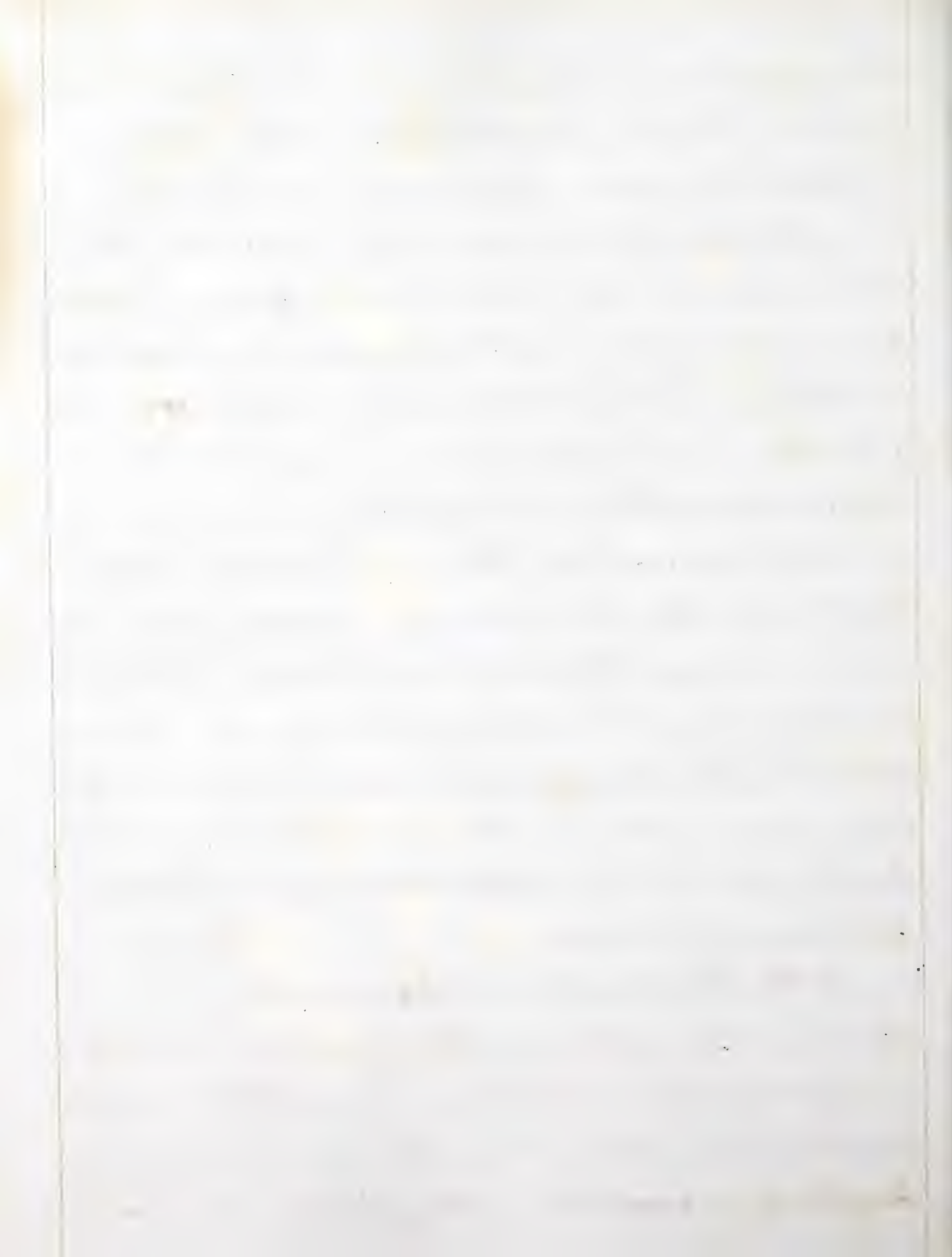


Nervous affections are common - such as Chorea, Hysteria, Chlorosis - resulting from difficult, suppressed & irregular catamenia. At the time of the cessation of this discharge - i.e. at the climacteric period - the system undergoes great & frequently unfavourable changes - & maladies are developed hitherto latent & incurable - such as Tumours of the Breast - Leukæmia & Cancer - Organic Lesions of the Uterus & Genitative system -

It has been observed, however, that females are less liable than the other sex to suffer from diseases which are Epidemic & Endemic - This is probably owing to the fact, that they are less exposed to the exciting & determining causes of disease & in part it may be attributed to their periodical discharges, which tend to diminish Plethora & to purify the blood.

2nd - Temperaments & Habit of Body -

Much stress has been placed upon Temperaments, as to their influence in a pathological point of view - since they not only indicate the peculiarities of constitution of any particular individ-^{idual}



but they also predispose to those particular forms of disease which their character denote -

They have been variously divided - but the most common division at present seems to be into -

The Sanguine or Aritetic - The Bilious - The Lymphatic & Phlegmatic & The Nervous - Of these the Sanguine - predisposes (as its name denotes) to Plethora, Acute Inflammations - Hemorrhages, Inflammatory Fevers - Pneumonia &c -

The Bilious - to Biliary derangements - Bilious Fevers Affections of the Stomach & Bowels, Mucous disorders, - chronic cutaneous Eruptions & to various organic derangements of the Abdominal Viscera -

The Phlegmatic Temperament most readily experiences Catarrhal attacks, slow Fevers, chronic discharges, Dropsies, Scrophulous & Venereal affections, diseases of the Joints & Glands, Tuberculous & other Chronic diseases -

The Nervous - disposes chiefly to convulsive diseases, especially to Hysteria, in females; to Mania & Insanity & to Nervous & Typhoid Fevers -

The Temperaments are frequently mixed & an



accidental predisposition will be the result -
As, for example - the Sanguine-Bilious Temperament
would give a predisposition to Bilious Inflamm-
matory Fevers, Hepatitis, &c -

Again - The different pursuits in which
men are engaged, their trades & professions
may operate as predisposing causes of disease -
The Doctor & Statesman regularly engaged in
in frequent & energetic debate, are rendered
liable to affections of the chest & Larynx -

While sedentary habits bring on disorders
of the Digestive organs & a train of disturbances
in the Nervous system - Those, whose occupation
leads them to almost constant exposure in the
open air & to active exercise under their predisposition
to disease in general, less than that of other persons
- but they are still disposed to acute inflammatory
attacks - such as Pneumonia & Rheumatism -

Beside these there are certain employments which
seem to operate not only as predisposing causes of disease
but at the same directly to form the introduction of
disease into the system - To this class belong Painters, Millers &c -

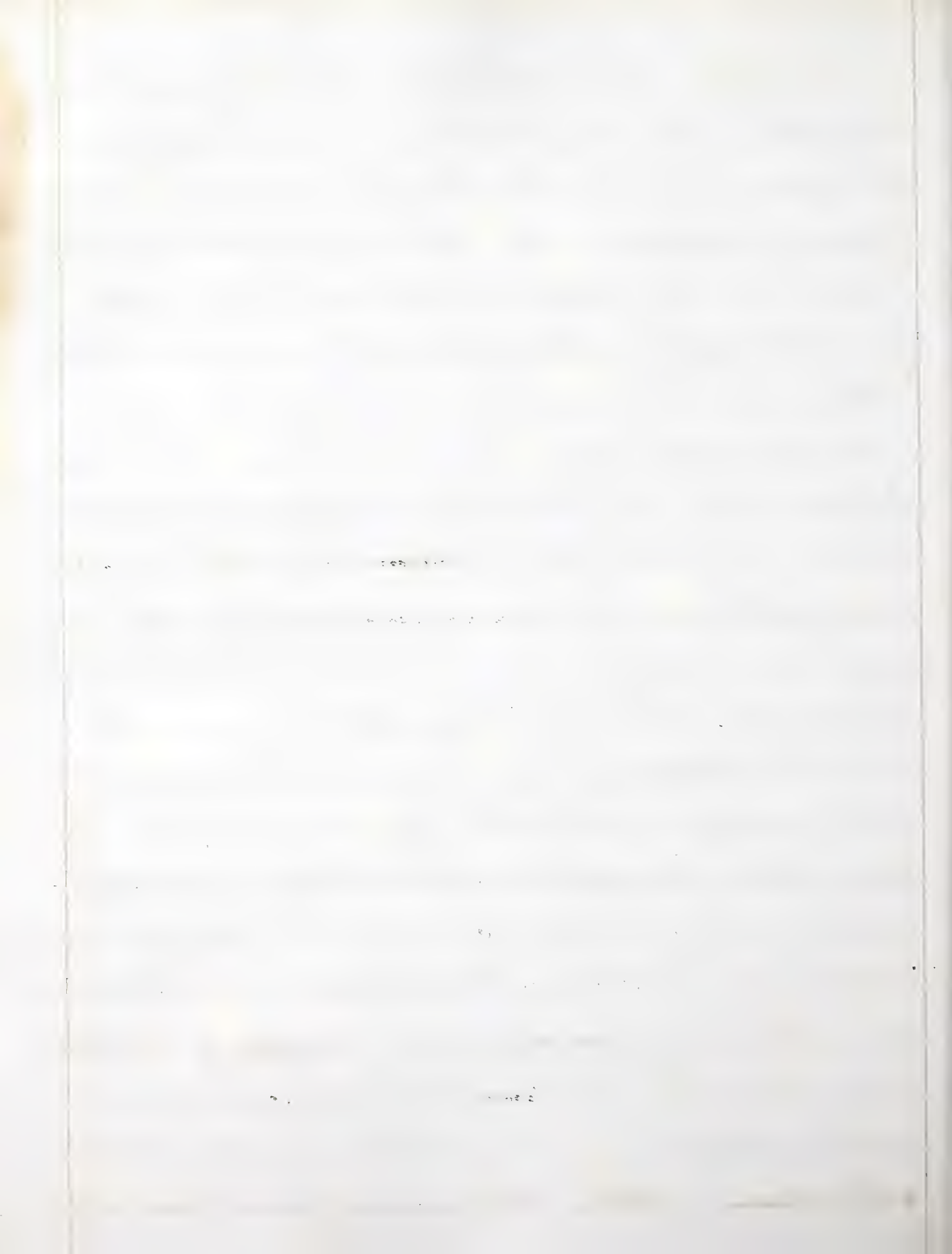
The Habits of Life, also, exert a powerful influence in predisposing the system to take on diseased action - Excessive indulgence of the appetites dispose to Plethora, Apoplexy, Paralysis, Gout, Dropsy, Pulmonary Disease, Diseases of the Heart, Epilepsy, Mania - etc. - It also weakens the vital energies & thus favours the operation of the common exciting causes of disease - On the other hand, - Destitution of the comforts of Life & want of proper nutriment may, & frequently do induce debility - & thus dispose to those diseases which are dependent upon this state - as. Low Typhoid Fevers, Scrophula, Scatutic Disorders - Dysentery & other diseases of a kindred nature -

Previous Disorder & Convalescence from other diseases, occasionally, also, operate as predisposing causes to further disease. After a severe & protracted attack of a violent disorder, the whole system is, ordinarily, affected with great depression & debility - The powers of Life are weak & unable to oppose the progress of disease in the animal economy with the same energy as its aggression - thus, there is a predisposition to be affected by the same disease at no distant interval, or a liability



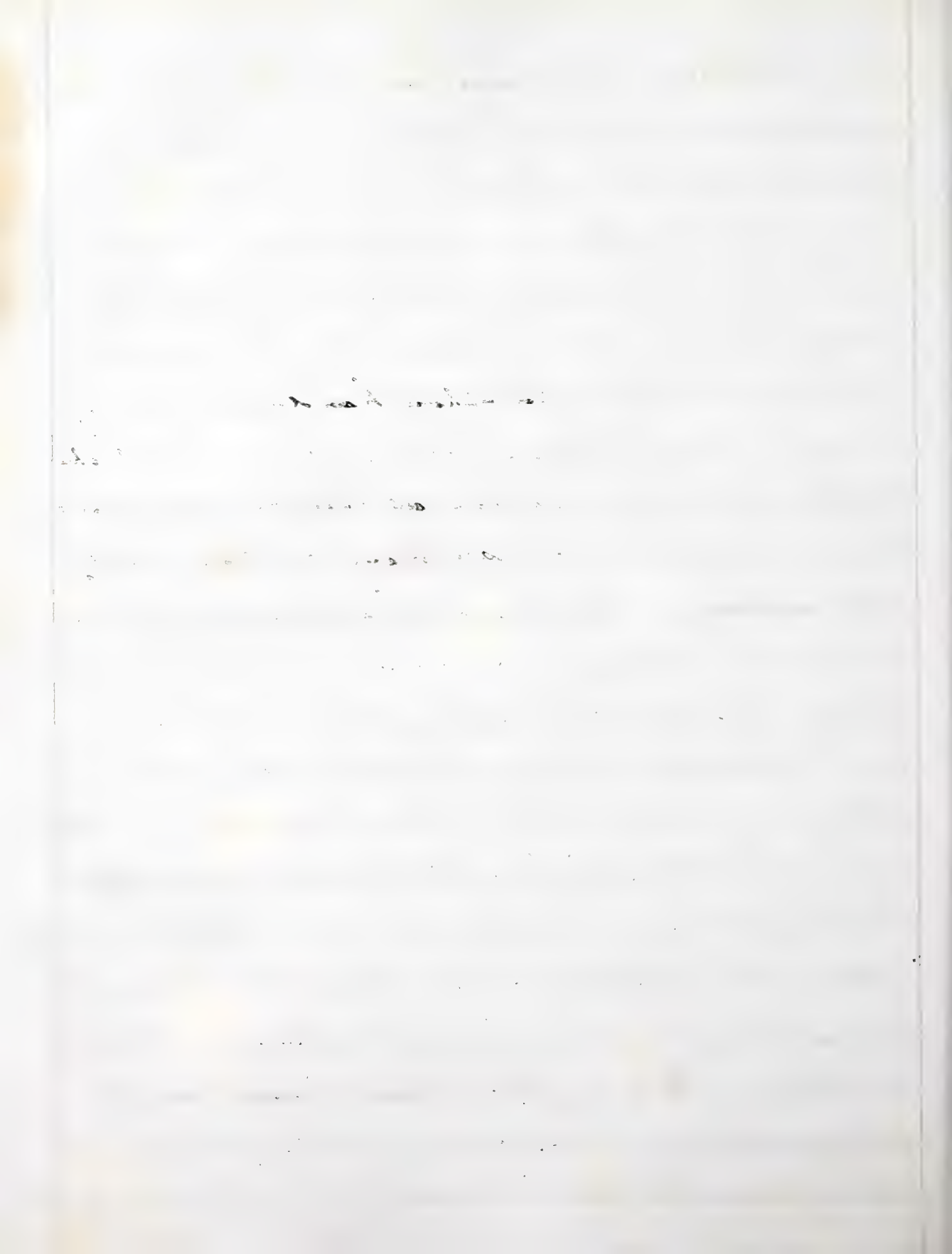
is induced to certain degenerative diseases, but following as regular - Thus an attack of Scarlet Fever predisposes the system - while in a state of convalescence - to certain Dropsical effusions - Other diseases are followed by local congestions & other disorders dependent upon partial exhaustion of the vital endowment & consequent debility of the functions.

The last of the Individual predisposing causes which I shall notice will be - those arising from the Puerperal & Puerperal states - These states are said to retard (during their continuance) the progress of certain chronic & curious maladies; still there can be no doubt but that these states favour, in a very marked manner, the recurrence of diseases which are severe & frequently fatal - The condition of the female organs & constitution, at these times, predispose to the invasion of exciting causes which develop maladies that are peculiar & dependent upon these states - such as low Puerperal Fevers - & to such as are not, necessarily dependent upon, although in a notable manner favoured by their presence - such as Inflammation of the Uterus & Peritoneum - Uterine Hemorrhage, Convulsions. etc.



The 2nd Class of Predisposing Causes are - those which are not peculiar to the individual, but which affect various persons, though individually & occasionally - They dispose the body to take on disease by inducing by inducing states of direct or indirect debility. I shall merely enumerate some of them -
- Depression of the Mental & Vital energies - Intemperance in Food & Drink - Excessive exertions & evacuations - Indolence & too great exertion - Sleep - & uncontrolled temper, passions & desires - These all have more or less influence in the production of disease - & I can't dwell upon them -

Lastly, - General predisposing causes - Of these the most universal in their operation are certain states & conditions of the atmosphere - as temperature & moisture - These vary much in degree - in different climates & at different seasons of the year & at different periods of time - They doubtless exert a powerful influence upon disease & are thus subjects of great interest to the Medical practitioner - But my time & limits prevent me from entering into their consideration - I shall therefore refer directly to our 2nd grand division of causes which is into -



Exciting Causes— The causes already discussed dispose the body to the action of those about to be noticed— so that, upon the operation of the latter, disease is directly excited. But the predisposing causes, may, by their activity produce disease without the aid of the latter—the predisposing being, in each case, the true & only exciting cause— & on the other hand, the Exciting causes frequently produce their effects, without the previous operation, as far as can be ascertained, of the predisposing causes & many of them merely predispose the system to the action of others, which follow in succession— To enumerate the Exciting causes of disease would be fruitless & almost impossible since they are so various & so dissimilar— They may, however, be divided into those which are occasional in their operation & into those which are specific or which are attended with determinate results—

The Occasional may act either upon the vital functions or directly upon the organization— & may be divided into— those which are applied to, & disorder or obstruct

the functions of the external parts of the body— those which make their noxious impressions upon the respiratory ^{organs} surfaces—
— those which act primarily upon the digestive organs—
— those which affect the organs of sense & lastly— those which excite mental emotions—

Of the Specific causes of disease I shall say nothing -
They are those causes which always produce the same
disease in those who are exposed to their action -
They give rise to those diseases which are considered
contagious, Epidemic & Endemic - & are very convenient
terms to denote the origin of diseases whose causes
are obscure & but little understood -

Thus, Gentlemen, I have attempted & though
very rudely & imperfectly - as you have perceived &
a general consideration of those various cir-
cumstances & influences which give rise
to diseased states in the animal economy - &
I have now arrived at that point, which you
have all, doubtless, been for a long time anxiously
expecting & most devoutly desiring - viz -

The End -

Rd Almstead

Jan. 9th / 49



VII.

Dissertation
on
Pneumonitis.

By

Moses Harrison Perkins,
of New Haven
Candidate for the Degree of Doctor in Medicine.



Pneumonia. Lung Fever.

^{is} the true disease described by Boerhaave
in chap 32. Lung 7. Species 7.

By the term is understood
Inflammation of the substance of the Lungs.

A disease known from the first rising
of medicine and one so common could not but fail
to attract the attention of the medical profession in all
ages, even were it not so full of interest and so fatal
in its terminations. By the ancients all diseases of the
chest of an acute character were comprehended under
this term, and it was not till pathological anatomy
had investigated the true nature of diseases that the term
has received its legitimate meaning. There are few
diseases which have been so faithfully investigated as this,
and few, if any in which such important practical
results have been obtained. It has not been till a late
period, that the distinction between Inflammation of
the Pleura and Inflammation of the substance of the
lungs has been at all understood, and there are some
at the present day who look upon them as always occurring



together. So far from this being the case with inflammation of serous membranes generally, no one will deny, but that the serous lining of any important organ may be in a high state of inflammation while the organ itself remains free from disease, & vice versa - the organ inflamed while its covering is free. As it is true of other important organs so it is of the Lungs, and it is a fact now generally admitted that

Inflammation of the substance of the Lungs may take place and its investing membrane remain untouched it is important therefore that the distinction should be thoroughly understood, as by this we are governed in their treatment.

Inflammation of the Lungs is a disease of cold & temperate climates, and is most frequent during the Autumn & spring months, although it may occur in any climate & at any season of the year. It is one of the most severe and is said to be productive of more deaths than any other acute disease. If not fatal during its acute stage it is apt to lay the foundation of diseases which are generally fatal in their termination. When it has

once occurred the constitution is predisposed to its return. Causes. Long continued exposure to cold is the most common although sudden exposure after excitement or when the body is in a state of perspiration from other causes may induce it. Over exertion of the Lungs, such as public speaking, blowing of wind instruments, or singing. Another cause and one not very uncommon is the application of poisonous vapors received into the Lungs during inspiration. External injuries frequently produce Inflammation of the lining membrane which extends to the Lungs. These are by far the most common, but any cause whatever operating on a constitution predisposed to it may excite it.

Inflammation of the Lungs presents 3 stages or Degrees. The 1st is termed obstruction or engorgement.

The 2nd Hepatization. - The 3rd Purulent Infiltration.

In the first stage, we find the Lung externally of a liver color, heavier, and harder, than natural, owing to its substance being injected with a frothy sanguineous serum. It is inelastic and pits under pressure.

Internally the color is red, and the spongy texture of

the Lung is in its natural state, It exsistates though
less so than the sound Lung. In the second
stage we find the Lung still continues to grow heavier
and more solid, it has entirely lost its crepitous
feel under the fingers, and sinks in water. It is
still red externally, and when cut into has a mottled
or variegated appearance, and on pressing it a small
quantity of bloody serum exudes which is thicker and
more turbid than in the first stage, and intermixed
with which we frequently find the firm appearance of
puriform matter. The texture of the Lung is easily
broken down and when torn we find the air cells
obliterated, their coats thickened and red, and the
whole Lung, from this cause, presenting the appearance
of small red granulating bodies. In the third stage
we find the color changes to a yellowish gray or straw
color both in the substance of the Lungs and the red
granulations, its tissue is dense, solid impervious to
air and so rotten that by the pressure of the fingers it
is easily reduced to a pulp. When cut into we find
the substance throughout its whole extent filled with

puriform matter.

The symptoms of Pneumonia are, Fever, pain in the side, Dyspnea, Cough and Expectoration. The fever is symptomatic and as a general rule is active from the commencement until the inflammatory symptoms subside. The pain is obtuse and deep seated and may be confined to one spot or extend itself over the whole chest. It is aggravated by coughing. The Dyspnea is often one of the most distressing symptoms at this time. It is hardly perceptible to the patient or his physician.

It varies in intensity {as does every symptom}- according to the extent and severity of the inflammation. This symptom is aggravated by the recumbent posture sometimes to such an extent, that the patient is unable to lie down. It is sometimes so distressing to the patient that he is utterly unconscious of everything else save his inability to breathe, at such times he is unable to lie down, can scarcely speak, his countenance expresses of great anxiety. The respiration is short and frequent as though the air did not penetrate to any extent, the swollen Bronchial tubes, When the

Inflammation in the upper lobes the dyspnea is more severe, The cough in the commencement is frequent, strong, and generally dry, unless there is spat up the ordinary secretion of the Bronchial membrane, On the second or third day Expectoration takes place which consist of transparent tawny or rust colored spits, and which is characteristic of Pneumonia and were it always present would be a sure indication of the existence of the disease. These spits are composed of mucus, intimately united and combined with blood, in which are found great quantities of air bubbles which cannot escape on account of the tenacity of the expectoration. It commonly appears during the stage of obstruction although it may occur in the commencement of the disease. It varies in color & consistence in different constitutions and in different stages of the disease.



Auscultation and percussion furnish us with the most certain evidence of the existence of this disease.

In the first stage the sounds emitted on percussion over the part affected are less clear than natural, and as the disease advances we find them gradually diminish until they are completely dull; on examining the chest through the medium of the laryngoscope during the first stage we find the crepitant Rhonchus of Laennec, blending with the ordinary vesicular breathing. This sound is characteristic of the first stage, and is generally heard at first in connection with the gentle breezy breathing of health, but as the disease advances it gradually overpowers the healthy sound and so continues until it loses itself in the sound, or sounds, of the second stage or its place again supplied by the natural respiratory murmurs. As the disease advances and the stage of Hepatisation comes on, we frequently have no other signs to guide us than the absence in the affected part of the crepitous rattle, or respiratory sound, in ordinary cases this stage is characterised by Bronchial respiration or Blowing, which is weak in the immediate vicinity of the inflamed part and exaggerated



in more distant parts and in the opposite lung. There is
Bronchial cough and Bronchopneumonia the first of which
always accompany the last. The Bronchial respiration and
cough are generally distinct while Bronchopneumonia may
hardly be perceptible or even not at all. This last sign is
more distinct according to the extent to which Hepatization has
taken place, and the nearer it is to the external and upper
surface of the organ. In the third stage the signs are the
same as in the preceding one although a peculiar form
of Mucous Rhonchus, in addition to the signs of the second
may announce the superintention of the third stage. There is a
peculiar form of Pneumonia which has only of late years
sufficiently attracted notice, and indeed it has only been
described with any accuracy until quite recently by some
few authors. No observer has endeavored to attach this
condition to any prevailing medical constitution, it
having been always explained as an individual and
exceptional circumstance. It is a form of disease which
does not follow the ordinary course, or exhibit the
usual symptoms; and which from the very first tends
to run into a state of Hepatization. The entire series



symptoms which characterize Pneumonia may be absent or so slight as to lead to the referring them to different and slighter causes. In general, however, auscultation and percussion do not betray us; but there is affection apparently so slight and so different we frequently not resort to. Diagnosis. Pleuritis is the affection with which Pneumonitis has been most generally confounded.

In Pleurisy the pain in the side is more acute, there is no elasticity of the walls of the Thorax on Percussion; while the dullness changes its site according to the position of the patient. At a certain stage of the affection there is aegophony; the absence of respiratory sounds if the effusion is considerable, and thoracic vaulting.

Prognosis. As resolution is the ordinary termination of Pneumonia the prognosis in such cases is not unfavorable. When Hepatization has not taken place if by auscultation we find the crepitous rattle is gradually subsiding, or when Hepatization or even suppuration has taken place we find a return of the crepitous rattle blended with the natural sound of respiration, the prognosis is generally favorable. A copious & free expectoration,

a gradual subsidence of pain, and difficulty of breathing, and a moderate diarrhoea occurring in the later stages are not unfavourable. On the other hand when the fever is high with great difficulty of breathing, a weak & intermittent pulse & livid countenance with symptoms of early exhaustion, the prognosis is unfavourable.

When symptoms of nervous excitement or cerebral oppression occur in the course of Pneumonia they are always of very unfavourable import. Pneumonia will sometimes set in with oppressive headache which occasions the patient so much distress that attention may be quite withdrawn from the Pulmonary disease until it has made serious advances. An insidious Pneumonia frequently goes on in Typhus Fever and is overlooked in consequence of the more striking symptoms of cerebral disturbance. Nervous excitement or actual delirium may come on in the course of Pneumonia, and they are always alarming symptoms. The disorganisation of the Pulmonary tissue is often indicated by the occurrence of delirium.

It is a general rule that the more a disease is removed from its regular type and becomes anomalous

the more dangerous it is and a latent pneumonia offers
no exception to this.

Treatment. The indications to be fulfilled in treating
inflammation of the lungs are. 1st To subdue
inflammatory action, 2nd To prevent deposition; &
3rd To guard against relapse. With the first intention
all authors agree as to the propriety of Blood letting,
but great discrepancy of opinion prevails in reference
to the amount to be taken, and to the propriety of its
repetition. The ancients relied solely upon blood
letting in their treatment, and there was no disease in
which it was so indiscriminately used as in Pneumonia.

At the present day there are few who carry it to
such an extent and by many its use is utterly
condemned. In strong and robust constitutions
moderate bleeding at the commencement of the attack will
be useful, and if the cephalic pain remains after
this it will be a safer criterion for the repetition of the
bleeding, than the fear of appearance of the blood.

In Pneumonia following the chronic bleeding is
inadmissible and that form of Pneumonia which

develops itself and if Catarrh appears to be lost under the control of depletion. In the Catarrh form also Bleeding is not found useful and in the Pneumonia of the aged instead of depletion Tonics and a supporting treatment is called for. Along with general bleeding the local abstraction of blood is frequently resorted to and in those cases when general Bleeding is contraindicated, decided relief has sometimes followed the application of cups and Leeches. Antimony. In the treatment of mucous Membranes and particularly in Inflammation of the Lungs; there is no remedy which produces such decided results as this. To gain its specific effect it is given in as large doses as the stomach will bear without producing nausea or vomiting. Its gastric effects do not seem to depend on its producing these two last symptoms as it always acts best, when it does not produce them. By many the Contra Stimulant effect of this medicine either in full doses or smaller ones is considered far more advantageous than repeated bleedings. The advantages obtained by this mode of practice in Pneumonia are that it sets

aside the necessity of large and repeated abstraction
of Blood; and consequently cures the disease without the
injurious impression on the Lungs, which has been
frequently seen to follow copious blood letting; Another
is the gradual advancement of the convalescence, &
the restoration of the patient to health and vigour
without the aid of tonics, by gradually checking the
use of the medicine the stomach recovers its tone and
the function of nutrition rapidly restores any waste
which the system has suffered from disease; or from
the necessary treatment. In the Pneumonia of Children
in late Pneumonia and that form of the disease
which follows catarrhal affections our chief reliance is
to be placed upon Antimony. Its effects upon the
stomach & Bowels are to be obtained by combining it
with Opium. After the inflammatory symptoms have
subsided that is, until the expectorations have
nearly disappeared, & the spittle are no longer rusty and
tenacious, and the Dyspnoea has subsided, the medicine
may be intermitted but should the inflammation again
rekindle it should be again checked by the Talcum & Opium.

when the attack has passed beyond the first stage, when delirium
impression indicates the patient, then the object of the 2nd
indication namely. to excite the capillaries & open for the
deposition requires attention. In this stage of the complaint
mercury having ranked high as a remedial agent, the object
in giving it is to make the gums tender & the more speedily it
is accomplished the better. For this purpose small & frequently, repetition
does one give until the desired effect is produced; as soon as this
occurs the effusion of lymph is checked, & the lymph already
effused, begins to be again absorbed, & the sore & confusion of the
patient as well as the irritation in the bottom of the physical sound
attest the healing qualities of the remedy. Its operation upon the Bowels
is to be checked by combining it with opium & if the intestinal are in
any way contraindicated, or if it is slow in occasioning its
specific effects, resalts should be had to the external application
of the mercurial ointment. - Blisters. These are
frequently employed in all stages of the disease.
and great relief is often procured from their
application. The pain in the side and Dyspnea
are in some cases more permanently relieved by the
application of a Blister or Mustard paste than by



any other remedy. They are more useful during the
acute stage although benefit is derived from them
throughout the whole course of the disease.

Blood letting. Antimony and Mercury are the three
great remedies for Pneumonia and when the signs
of Auscultation are thoroughly understood and the
remedies are applied as symptoms indicate they will
generally produce the happiest results. But when
the Diagnosis is not thoroughly understood and
the proper treatment applied in season we shall
be under the painful necessity of seeing our patient
sink into Articulus Mortis.

VIII

Dissertation
on
Morbus coxarius.

By
William Henry Sage,
of Kitchcockville,
Candidate for the Degree of Doctor in Medicine.

Morbus Coxarius

This, is a chronic disease of the Hip Joint, of which children of from five to twelve years of age are the most frequent subjects, and is divided into three stages, from from the experience of which, we derive our indications of treatment, and decide upon, a favorable or unfavorable prognosis. In the first stage we find, an indolent, inflammatory condition, of the Cartilages of the joint, involving to a more or less extent in its diseased action, the surrounding ligaments and tissues. This stage may be of longer



or shorter duration; according to the constitution and habits of the patient; or the treatment and attention which it may receive: all or any of which may materially promote or retard its progress.

The second stage has been denominated the stage of Elongation, and we find an extensive thickening, of the diseased parts, with a decided tendency to ulceration of the cartilage: this stage is attended with an elongation of the limb, in consequence of the thickened condition of the surrounding tissues; and soon passes into the third and last stage where we have severe pain; extensive suppuration; caries; dislocation and destruction of the joint; and at last, mortification of the bone; hectic, and probably death. The foregoing, may be considered, as a brief outline, of what has heretofore too often been; the commencement, progress, and final termination; of this



disease. And even at the present day, Neuralgia is believed by the great mass of the Profession; to be an incurable malady: but the unparalleled advancement of the science of medicine, within the last few years, has furnished us with knowledge so accurate as to enable us to detect the disease in its earliest stage of development: when by a prompt and persevering course, of the proper medical treatment, together with unwearied care & attention, we are warranted in looking for a perfect restoration to health, as an almost certain result.

Causes - Before speaking of the symptoms and treatment of this disease, we will briefly consider its principle causes: and, as we proceed to their investigation, we at once perceive that the disease is most intimately connected with that peculiar condition of the system termed Stroma. a condition

in which, there is an imperfect performance of the functions of life; constitutional debility, and a tendency to indolent, inflammatory, and ulcerative diseases. a condition too which is an inheritance of masses of human beings; and is a most fruitful cause of disease and dissolution. It is I believe universally considered, that scorbutic scurvy is but one of the numerous forms in which Struma presents itself; that in fact the presence of the Strumous taint, is necessary to its production and development. In speaking of its causes therefore; I shall of necessity present to you, the causes of this constitutional taint. And first, and foremost, stands, hereditary tendencies.

That peculiar predisposition to disease which a child may receive from its parent. with regard to the truth, or fallacy, of the theory of hereditary descent

of constitutional vice, from parent to child; I think there is at present but one opinion. it is a fact universally known, and admitted, that a child born of parents; one or both of whom are or may have been suffering from Phthisis; is very likely sooner or later, to become a victim, to the same malady. In the same manner, and for the same reason, the progeny of parents of debilitated constitutions; or of those who have been addicted to habits of intemperance; or have suffered from gout, or rheumatism; or any of the unlimited constitutional vices, with which the human system is so universally contaminated, will be likely to inherit more or less perfectly, the parental seeds, of debility and disease. Every continued excessive mental application, excessive indulgence of passion,

a life of dissipation, and frequent visits, to the haunts of vice; are and all exert a powerful influence upon the human system, and are direct means of the propagation of Struma to succeeding generations. But parental poverty of constitutional vigor, is not the sole cause, of the origin and propagation of constitutional vice. There are other causes which are perhaps, no less universal or powerful. We easily perceive the absolute necessity of the influence of light, in the development and perfection of vegetable life; and its influence is by no means a less necessary element, in the wonderful process by which the animal system is developed and perfected. Dark and improper habitations then, the use of insubstantial and indigestible food, exposure to cold damp and impure atmosphere, irregularity

in the habits of life, inattention to cleanliness, the excitement of parties, late suppers, and their attending evils, pampering the appetite with unnatural, and highly seasoned food, are causes, which operate upon the young, and exert an untimely influence in the origin, and development of disease. There are a few of the various habits, circumstances, and conditions of life, which may be considered, as direct causes, of the Stomach taint.

In the predisposing stages of this complaint therefore, we can often do much to invigorate the constitution, & thereby eradicate the tendency to, the disease or prolong at least for a time its fearful and final approach, by attending to, and correcting, the habits of our patient. Symptomatic children are the usual subjects of this disease, it may however occur at any period of life.



both hips, are seldom the seat of the disease at the same time, though this is an occasional occurrence; the disease being more fully developed in one than the other. Its approach is slow and insidious; the child will usually complain first of pain in the knee joint, which occurs at intervals, and is of longer or shorter duration, according to existing circumstances. About the same time, the mother will usually observe in the gait of the child, a slight limp. These symptoms ~~are~~ ^{are} frequently supposed to be, the result of a bruise or injury, excite but little attention and soon pass away; at other times they make their appearance without appreciable cause, exist for a time, and disappear as mysteriously as they came; in either case, ^{however} they will return, again pass away, and again return, until the serious attention of the parents, is created; and

the Surgeon is called. To him the child bears the appearance of having been literally reared in the shade, the complexion is pale and pasty; the muscles soft and nearly powerless; the appetite very capricious, or at all times very poor; the digestive organs much debilitated, and the general appearance, giving conclusive evidence, of the imperfect performance of the functions of life: very likely at this stage of the complaint, the child is able to perform its ordinary duties, either at home or in school; but there is a general indisposition to engage in any of the more active amusements of childhood, and the countenance wears a continual expression of languor. By inquiry we shall ascertain that the child is very irritable, easily fatigued, and exceedingly liable to stumble; the pain is greatly increased by over exertion, or fatigue, and the disease



is more troublesome in cold, or damp, than in fine and pleasant weather. We shall also by personal attention to the child, notice peculiarities in its manner of walking; and especially in the manner of standing, when slightly fatigued. The patient almost always standing, so as to incline the body a little to the affected side, leaning against a chair or table, and resting the ball of the foot of the lame limb, on the instep of the other. In this way, the diseased parts are placed in the most favorable position.

The presence of symptoms like those I have just enumerated, in a child bearing evident signs of the strumous taint, should be sufficient to excite in the mind of an intelligent practitioner, serious apprehensions at least, of the existence of morbus coarctatus: and a thorough examination relative, to its diagnostic signs, should



occupy his immediate attention.

Diagnosis - Pain in the knee joint being one of the first and a very important symptom of this disease, we are in danger of confounding it with pains of another character; for instance rheumatic pains, which however are neuralgic in their character being also most severe late at night after the patient is warm in bed, and early in the morning; whereas the pain of hip complaint is more constant in its seat, and is most troublesome during the afternoon and evening.

We are also in danger of confounding it with another kind of pain common to children, called legs aches; and is supposed to depend upon the rapid deposit, and consumption, of animal tissues. This however with a little care is easily diagnosed, the principal difference being the absence

of the constitutional symptoms, characteristic of this disease. We must therefore in making out our diagnosis, be careful to distinguish **cervical** pains from those of an other character; we shall notice the hours of greatest severity, with the peculiarities of its approach; it is also very important to make a minute examination of the joint; the great indication being, to ascertain, the presence or absence of inflammation there.

To ascertain this, there are several modes, we can by degrees, so as not to frighten the child, make smart percussio, upon the trochanter major: when if there is inflammation of the parts, the child will give evidence of pain. or we can forcibly adduct the limb, from which if inflammation is present we obtain the same results, if much pain is



caused by these manipulations, we are tolerably sure that inflammation is present, and must direct our treatment accordingly.

Treatment—The treatment of otalgia depends much upon the stage in which we find it; if extensive ulceration has taken place, or caries commenced, we can hardly expect to effect a cure, even by the most rigid treatment; and usually the most we can do, is to enjoin moderate rest, support the strength, alleviate the symptoms, and relieve the misery as much as in us lies, and by our kindness and attention, prolong, and soothe, our patient's pathway, to the tomb. But when we find the disease in its earliest stage of development, we are to expect much, from a proper course of treatment; The first great indication is perfect rest. To secure this, it will

be necessary, to explain to the parents the true nature of the disease together with our plan of treatment, and the positive necessity, of long continued absolute rest, without which it is useless to attempt anything. Having enlisted the confidence and hopes of the parents in our plan of treatment, a cool hair mattress should be placed in a convenient wholesome and well ventilated apartment, upon which the patient is to be placed, and must remain untill a cure is effected, a period usually of from six, to eight, months.

In addition to rest we find counterirritation very beneficial, this we can produce by issues, leeches, eschars, &c or by the application of blisters, or antimony. Some eminent Surgeons prefer the application, of a succession of blisters, applied about the

trochanter major, commencing with two narrow strips, placing one on each side of the trochanter, and removing them just the distance of their width, as soon as vesication is produced. Continue in this manner until the surface is vesicated to a considerable distance around, then commencing again, at the place first vesicated, pass over the part again in the same manner; this may be continued for a period of two or three weeks, as may be judged proper, after which an issue should be made near the trochanter major, and may be kept discharging for a longer or shorter period, according to the circumstances of the case.

Much also is accomplished in the treatment of this disease, by the judicious administration of constitutional remedies; of these some of

the numerous preparations of Iodine: the Olen-jecoris acelli: or the Bi chloride of Mercury, with the Tinct of Bark: Stand high in the estimation of the Profession as Antiscrapulous remedies. and from these we can select such, as in our judgement, may seem best adapted to the case. Tonics are especially indicated, if there is much debility, as are also Opiates if there is pain and restlessness, A firm adherence to the great principle of treatment, absolute rest: with a judicious application, and administration, of the remedies above enumerated, with unwearied care and attention, will prove sufficient in a great proportion of cases to effect a cure.

IX,

Dissertation
on
Aneurism.

By
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Candidate for the Degree of Doctor in Medicine.

A dissertation upon a disease
of the arteries called
Aneurism.

By
Austin Demiss Shemaker
of
Wyoming Valley, Penn.
Delivered

January 1849.

Aneurism.

In looking over the catalogue of diseases for a subject upon which to write a Thesis, it is a very difficult matter for the student in Medicine to decide which one to select from so extended a list. Not having had any practical knowledge, he finds it as easy to write upon one subject as upon another. His knowledge is nearly theoretical, and his books will furnish him a sufficiency of matter, from which to pick and prune until he is tired. When I looked over the Medical works for something, upon which to form a Thesis, I found it impossible to choose. I therefore looked to my practical knowledge, (though it has been very little) deciding that the disease which I had seen most often, would be the one most suitable. That disease was Aneurism. In treating of this disease, it is not my purpose to speak of any of the theories put forth by the old writers. But I shall endeavour to give a concise account of the disease, its causes, its attendant train of symptoms,

and the treatment I think best to be adopted, as well as the treatment advised by our best modern writers on this subject.

To understand this disease it is proper that I should give some account of the structure and conformation of arteries. The arteries like other parts of the body are duly supplied with nutrient blood vessels, nerves, exhalents and absorbents and are made up of three coats an external, middle and internal, differing from each other in structure, consistence and tenacity. The external coat is the strongest and serves at the same time as the chief means of resistance of the vessel and of connection to surrounding parts. It is composed of condensed cellular membrane of remarkable elasticity and toughness, color white, the inner surface is smooth, the outer surface is rough, uniting it with a cellular sheath with which all the arteries are surrounded, though in different parts of the body, the investing membrane or sheath of the artery is continuous with the fascia of the region in which the artery is situated.

This sheath contains the nerve, (when there is one, for some of the ablest authors seem to doubt that the artery itself is supplied with nerves) and the vasa vasorum or nutrient blood vessels of the artery. The middle is the thickest of the three coats, fibrous in its texture, and the most of the fibres arranged in a circular direction around the artery, with a few transverse. Upon the muscularity of the middle coat there has been a great deal of discussion by some of the ablest of our Anatomists and Surgeons, and it may seem bold in me to say that it is muscular, yet as it is the general opinion at the present day among our more modern writers and of some of the best of the old writers, from the experience which I have had, though it has been small, from the great experience of others and from repeated experiment I am led to think this coat truly muscular. For although the fibres separate readily from each other, this cannot disqualify them for belonging to the muscular system. The object of this coat seems to be, to assist the heart in supplying the body with nutrient matter.

Its office therefore is alternate dilatation and contraction, and when force is applied in the direction of the fibres. I have found them to resist as much as any other muscle in proportion to their size. But enough upon the muscularity of this coat, for as in the books there appears to be no end to discussion, so with me. This coat is of a yellow colour and very brittle transversely to the artery. The internal coat is a serous membrane the same that lines all the closed cavities of the body, of very delicate texture. This membrane is transparent and easily torn by force applied directly to it. The above is a general division of the structure of arteries and though there are six distinct laminae or coats, still it would not be proper in connection with my subject, to go into a more extended account than that I have given.

The meaning of the word Aneurism is "A sack containing blood, which communicates with an artery". This sack may be formed of all the coats of the artery, or the external one or two. The dilatation of an artery is considered by some writers as not properly

claped under the head of Aneurism, but as some of the best of the modern authors give the opinion that there is no definite distinction to be made I shall make none.

The Predisposing cause in almost every case of Aneurism, is a diseased state of the internal or of all the tunics of the artery. The Exciting causes are as various as the opinions of different Surgeons, moral emotions, to wit, violent muscular exertion in lifting, jumping, coughing, vomiting and the like, the excessive use of spirituous liquors, are said by those having had great experience, to be the most frequent exciting cause.

As regards the difference of frequency of this disease in the sexes, it has been found in the male much oftener than in the female. From the testimony of Sir A Cooper, Mr Haysow, Mr Guthrie, John Hunter and others the proportion is, as one to seven or eight. The reason I suppose for this great difference is, that females as a general rule do not use intoxicating drinks as freely, nor are they called upon for so great muscular exertion, as males. The period of life at which aneurism is most frequently found Sir Astley Cooper says, is between

thirty and fifty years. This disease is not confined to any one order of Arteries, but may occur in all the arteries of the body. The large arteries, however, more frequently take in this disease, and of these, the internal or those nearest the heart more frequently than any others. The reason of which I suppose is, that the nearer the arteries are to the heart, the thinner are their walls in proportion to their diameter; and the large arteries are less muscular than the small ones, being made up almost entirely of elastic tissue, consequently they are less capable of withstanding the violent pressure of the blood. As a general rule the farther you go from the source of circulation, the less liable are the arteries to take in this form of disease. Though aneurisms have been found on almost every artery of any size in the body. The first general division of Aneurism is into True and False. These are subdivided into True and False circumscribed and diffused. Also aneurism by anastomosis. The simple True aneurism is, the expansion of all the coats of the artery in a small part of its course, or the expansion affecting a larger extent, and gradually lost. The true circumscribed

is an aneurism having a sack or cyst, for example. The middle or muscular coat being torn, the internal coat is forced through the opening, forming a sack connecting with the artery by a small orifice. The diffused, is the giving way of all the coats and the blood impregnates the cellular tissue around. False aneurism, is, when by actual violence applied immediately to the artery rupturing all the coats, or from a wound penetrating the artery, as, when from bleeding at the bend of the elbow, the brachial artery is incised, the artery throws blood into the surrounding cellular tissue. The circumscribed and diffused false are merely terms used to show the extent of the effusion. Aneurism by anastomosis I understand to mean, that the capillaries of a portion of integument connecting pieces with each other, become squally and permanently dilated, producing an elevation and discolouration of the part. This form I think belongs more properly to the claffy macous. The symptoms which characterise internal aneurism are exceedingly obscure, those of external aneurism, or aneurism of those arteries, the pulsation of



which can be felt by the finger are the following. The patient discovers a small swelling in the part not at all painful. On examination by the Surgeon, it is found to be an elastic, pulsating tumor, diminishing or entirely disappearing by pressure on the cardiac side and increasing by pressure on the distal side. As the tumor increases, the blood coagulates, and by making pressure upon the surrounding nerves it produces pain. The blood continuing to coagulate, and the fibrin of the blood being deposited within the sack, it will not disappear under pressure, the pulsation in the tumor is weaker, and often cannot be felt at all.

When the tumor has acquired considerable size, it acts injuriously by its pressure upon surrounding parts.

If the disease is suffered to progress, and no remedial measures are taken, the circulation in the diseased artery and in the branches given off beyond, becomes unequal, and the nourishment and warmth of the parts to which the branches of the artery are distributed is diminished.

By the constant pressure of the tumor, the parts between it and the surface of the body or of some of the cavities having an external opening, whether they are bone, muscle, tendon, or cellular substance, are removed by absorption.

This process being suffered to go on, all the parts are removed until a mere film is left between the sack and the surface which is torn by some apparently slight cause bringing on a dangerous and sometimes a fatal hemorrhage. The diagnosis of some solid tumors, abscesses, or enlarged glands, lying over the track of an artery is of great importance. Although by pressure upon any swelling lying near an artery, but not opening into it, the pulsation of the artery may be stopped, yet the size of the tumor does not diminish, but the whole body of the tumor is pushed down upon surrounding soft parts. A solid tumor lying upon an artery, but not encircling it, may be distinguished from an aneurismal tumor, by lifting it directly from the part, when if the tumor is not connected with the artery the pulsation will not be affected, but if the tumor encircles the artery, the pulsation will be stopped entirely, which would not be the case if the disease of the part was aneurism. When pressure is made upon the proximal side of an aneurismal swelling (if it has existed long) the sack will diminish in size, and when pressure is made upon the distal side the sack will expand. A solid tumor will not alter its volume by pressure either upon the proximal or distal

side. The prognosis in internal aneurism is generally
unfavourable. In external aneurism where the sack can
be felt, if the disease has not existed for a great length
of time, the prognosis at the present day is exceedingly
favourable. A spontaneous cure has taken place in a
few rare cases, though if the disease is left to itself,
and no medical or surgical treatment is adopted, it
generally terminates fatally. A spontaneous cure takes
place as follows. The blood in the sack coagulates in layers,
by which the cavity of the sack is diminished and at last
entirely filled up, the clot extends into the canal of the
artery, stopping entirely the flow of blood and the increase
of the tumor, or the coagula contained in the sack, may
be converted into a solid mass, the wall of the artery
being preserved, by which mass, the bursting of sack
(as it is called, though I do not think with propriety) is
prevented, and the sack and its contents are gradually
removed by absorption. There is a form of surgical treatment
much in vogue at the present day, which is very highly
spoken of by our much respected Professor Dr Knight,
called compression, the object of which is to bring about
the same thing that takes place in a spontaneous cure.

The successfull use of this mode of treatment is almost entirely a modern thing, for when the old authors speak of it at all, they discourage its use, as a means of cure, they say it is very painful, slow, and not to be relied upon. In this manner of cure out, the artery is to be compressed near the aneurismal swelling where the artery is most superficial and surrounding parts afford a proper point of support for the compression. All the contrivances by which the compression is effected, whether tourniquet, bandage and compress, or the hands of assistants, must be so managed that they will not compress the artery itself and thereby stop the circulation. New mode of cure I think should always be tried experimentally when it can be brought to bear upon the cardiac side of the aneurismal swelling, before other and more severe means are used, for from the records of some of the most experienced in this matter, nine cases out of ten have been safely obtained. When this mode of cure will be beneficial, it soon shows, and therefore it should never be persisted in too long. The last resort and the only curative means to be relied upon (as the old Surgeons say) is the ligature, or tying the aneurismal.

artery. There are two modes of performing this operation, the ancient and the modern. The ancient or the one laid down in the treatise on Surgery by the ancient Greeks, consists in opening the sack, removing its contents and tying the artery above and below the disease. The other consists in laying the artery bare above the diseased part, in a convenient place and tying the artery there. Other operations have been performed by Aesculap, Celsus, Hippocrates & others, but not having been thought so good as the one last mentioned they have been dropped. The operation of tying an artery at a distance from the sack, where the coats are healthy, was first successfully performed by John Hunter an English Surgeon. The effect of a ligature to an artery, is to arrest the flow of blood. The two internal coats being divided, adhesion of these coats takes place, and the lymph exudes firmly plugs up the artery. Ulceration of the external coat takes place and the ligature is thrown off entire. In the application of the ligature, care should be taken that it be transverse to the course of the artery and also that there be nothing but the artery included in the ligature. For when ulceration of all the coats takes place, secondary



hemorrhage will come on, which is very much to be dreaded. As regards the ligature, it should be round and small, - the coats will not be divided. The material most frequently made use of, is the common hempen thread. After the ligature has been applied, the wound must be deepened as an oblique incision, with adhesive straps and bandages, taking care to bring one end of the ligature out at the most depending portion of the incision, cutting the other end off close to the knot. The ligature will generally come away or can be drawn out from the wound, some where from the twelfth to the sixteenth day, after which the whole wound will heal kindly. Medical treatment can only be palliative, some of these are, confection, rigid diet, turpentine at bedtime, cold and astringent applications, and the various sea-baths of which, the digitalis has been used much more than any other. In conclusion I shall give a few of the varieties in which this disease is most frequently found, in the order of their frequency, with the position for the application of the ligature.

The arch of the aorta is especially liable to aneurism, producing palpitation of the heart, difficulty of swallowing and an irritating cough from the pressure ^{the} arch upon the trachea.

Of this form I have seen two examples, both of which burst into the oesophagus, causing immediate death. Aneurism of the abdominal Aorta, takes place just above the bifurcation, producing pressure upon the Thoracic duct, Wopsy and caries of the spine. These two forms should be treated only by palliative means, for although Sir Astley Cooper and several other eminent Surgeons have tied the abdominal aorta, the operation has never been successful.

Aneurism of the carotid artery, is situated at the angle of the jaw, near the bifurcation of the artery, producing difficulty of ~~swallowing~~ and breathing. The incision necessary to arrive at the artery, should be made along the inner border of the sterno-mastoid muscle and extending from near the angle of the jaw to the cricoid cartilage.

Popliteal aneurism, is situated just above where the artery divides into anterior and posterior tibial arteries in the Popliteal space. The most advantageous place for tying the femoral artery in this form, is on the inner side of the sartorius muscle, about where the artery passes under the muscle. The incision need not be

made very free, as the artery in this position is very near the surface.

Aneurism at the bend of the elbow in the humeral artery is not uncommon. The humeral artery is tied about the middle of the arm, on the inner edge of the biceps flexor muscle. The incision should be made about two inches in length. The irregularity in which the branches come off from the brachial artery, often give trouble after tying the main trunk.

The tumor in Axillary aneurism occupies the arm-pit and some-times extends above the clavicle producing pain and numbness in the arm. In this form of aneurism some surgeons tie the subclavian artery above the clavicle, while others tie the axillary artery below the clavicle.

For all other forms of this disease and the treatment required I would refer you to the best authors on this Subject.

A.D.S.

X,

Dissertation
on
Delirium tremens.

By

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Delirium Tremens

Gentlemen. I have chosen as the subject of my thesis that singular and remarkable variety of mania so common a symptom of the beastly and degrading vice, ~~drunkenness~~, which is commonly known by the name "Delirium Tremens." It would almost seem as if the Almighty intended this disease not only as a punishment for this, in giving it, but to serve as a solemn warning to the drunkard to abandon the intoxicating cup - to make choice of such a course of life as the voice of reason dictates, the public good requires and his own best interest demands. In the immense and ever increasing catalogue of vices which have enslaved fair human nature, since man ^{the} first heir of disobedience, there is none more influential in degrading him in the scale of being and making an utter wreck of mind and body than the one comprehended by the common yet striking term ~~drunkenness~~. The sum east says Dr Rush

can sustain more than famine, cold and pestilence. This is a culture which preys on the liver and produces chronic hepatitis chronic and acute morbid obstructions and indigestion destroys the mental powers and if persisted in will destroy both soul and body. But to return from this digression I will direct my remaining remarks to the disease which is so common a consequence of this degenerating and peccable race. I treat the subject in such a manner as its interest and local importance demand is an undertaking to which I consider myself quite inadequate and the more so since as I have never seen a case of the affection I can say nothing from personal experience or observation but shall have to rely entirely on the sayings and opinions of others. Delirium Tremens is principally a disease of drunkards and is said never to attack those who indulge in the moderate use of spirit or other narcotic liquors. While the individual takes

His usual, more or less, stimulation, which the disease
 rarely, appears, and if from any cause, the usual
 operations, are either abandoned for a time or taken
 in diminished quantity then it is - that the
 disease is well apt to make its attack. In some
 instances this affection succeeds a debauch which
 has caused much prostration and nervous irritability
 and in some cases it attacks those who have neither
 intermitted, their customary spur - or taken it -
 in smaller quantities than usual - Delirium tremens
 sometimes, comes on in the course of other diseases, after
 bodily injuries - surgical operations, and, when the
 nervous system has been overstrained by long continued
 and intense mental exercise. No doubt the same
 state of the nervous system may be induced by
 disease, injuries and over exertion of mind - as that
 upon which the affection, now in question, essentially
 depends - yet, as it is by no means easy, in every
 instance to ascertain the patient's habits and
 mode of life it would seem quite probable

It is necessary in such cases to point at least for their
medicating cause in an individual use of alcoholic
drinks.

Symptoms

The symptoms are generally such as to
establish in the mind of the physician a correct opinion
of the nature of the disease. Though in some instances
they are quite equivocal and a mistake may be
made as to the nature of the disease. Whether the disease is
Tetanus or some inflammation affecting the brain.
In these cases not only should all the symptoms
be carefully watched - but it greatly should be made
in regard to the patient's habit and mode of life
as of course the physician will ^{only} be able to
make a correct diagnosis, thus doing great credit to
himself as well as ~~rendering~~ a lasting benefit on the
patient. The first symptoms which generally mark
the approach of this disease are, languor, gastric distress,
partial or entire anorexia, nausea, vertigo confusion
of ideas, disturbed sleep, and tremor of the limbs.

After a time the countenance assumes an anxious
 expression, and the patient manifests great uneasiness -
 walking to and fro about the room, at one time
 directing his attention to some object above him,
 at others, to that which has no existence except in
 his morbid and excited imagination. He now
 becomes a prey to apparitions and various alarm-
 ing and disgusting sights, hears strange voices
 and is suspicious that the bystanders intend him
 injury, or wish to kill him. He kindly treated as
 well sometimes answers questions with tolerable
 propriety, and rarely attempts to injure himself
 or others. Though in some cases - and especially where
 the excitement is of high grade. He becomes violent
 and unmanageable - as to render a resort to physical
 coercion - necessary. In addition to these
 symptoms. There is obstinate watchfulness -
 and general irritability. The state of the pulse
 varies much - in different cases. When the disease
 appears in what is termed, its true form. The pulse is
 frequent and soft - while if there is a high grade

of excitement. It has considerable strength and
tension. There is also a cool and moist-
state of the skin a pale or flushed countenance,
and a humid and creamy tongue. The
fever which generally is present in this affection
is often slight and sometimes wanting entirely.

Pathology. In regard to the seat and nature of
this disease there has been much dispute. While
some of the writers have thought it to depend on
cerebral congestion or inflammation others have
made the stomach the seat of the irritation and
the centre from which it radiates to affect the
brain. There is the medium of sympathy.
At the present time however, I believe it is generally
admitted that it is a disease having its essential
seat in the sensorium commune, and consisting
chiefly in morbid cerebral activity and irritation.
This view of its nature would seem to be true
from its so common occurrence after the -

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disease of a stimulus which had previously served to blunt
and keep within due bounds - the cerebral excitability.
Post mortem appearances are so variable and
inconstant as to shed little or no light on the
nature or seat of the disease.

Prognosis

When "delirium tremens" occurs in its
pure and unmixed form, in those persons who have
not previously been subject to its attacks, and of
a tolerable good constitution, it generally terminates
favorably. If on the other hand - it seizes those whose
constitutions have been much impaired by
intemperance or is complicated with other
diseases, it frequently tends to a fatal issue.
One of the most favorable indications is
the occurrence of tranquil sleep, which is a
very frequent and small but, still, a
dis, muttering delirium, subsultus cordis
or convulsions are the most unfavorable symptoms.

Treatment

The principal object to be aimed at in the treatment of this affection is the inhibition of such morbidness as to controul the inordinate activity and irritability of the cerebral functions and produce tranquil and uninterrupted sleep, for if quiet repose of some duration can be induced, a speedy and perfect recovery rarely fails to take place. For the purpose of quieting the irritation and inducing sleep our main reliance is to place on the use of opium in some of its forms or what in some cases undoubtedly appears better; the administration of the tincture of digitalis. In a few instances where the constitution has been greatly impaired by excessive intemperance it may be necessary to administer the patient a moderate quantity of this customary stimulus; but as this mode of treatment would rather serve to encourage him

in this previous bad habits it ought not to be admitted, except under circumstances of imperious necessity.

Generally before resorting to the use of narcotics it will be best to unload the bowels of their contents by the exhibition of a cathartic, and in most cases those of the mild kind as calomel, in moderate doses are to be preferred. In this manner the alimentary canal is not only freed of its irritating contents, but the system is rendered more susceptible to the action of other remedies - and the risk of prostrating cerebral congestion by narcotics diminished. When this disease appears in what is called its pure and unmixed form, opium and its different preparations is undoubtedly equal in importance to any remedy which has thus far been used and to ensure its remedial operation requires to be given in large doses - often, in frequently repeated doses. The better and safer mode of exhibiting this article is to commence with a moderately full dose, as 2 or 3 grs. and then to exhibit small quantities of opium in

substance, or tincture, at short intervals till sleep
 is induced. If there is considerable cerebral excitement
 digitalis from its power of diminishing the force
 of the circulation is no doubt superior to opium and
 even the garrodo reports given of its effects in this
 disease - by several practitioners in this vicinity
 I am inclined to believe that its value has been far
 too much underrated by the profession generally.
 As to the moral treatment - if any is required
 it should be mild - and all violent and
 overbearing measures should be avoided as far as
 is consistent with the safety of the patient and
 his friends - for harsh treatment only tends to
 increase the irascibility of the patient - During
 convalescence the diet should be light and
 stimulating - and the digestive functions
 attended to, and regulated if necessary -
 by the administration of mild tonics -

James Wright M.D.
 Madison Wis.





~~XL~~

Dissertation
on
Ship Fever.

By
George Steele Williams,
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Candidate for the Degree of Doctor in Medicine.



Ship Fever.

Fever, with its legion of variations has at all times attracted the closest attention of physicians, above all other subjects within the realm of medical science. Industrious and ingenious investigations have been made by a host of the most gifted of the medical phalanx, concerning this intricate subject, on account of the frequent occurrence of the affection - the great variety of forms in which it makes its appearance, and the universal benefit which would accrue from a correct knowledge of its pathology; by its aiding physicians in their endeavors to arrest and roll back the inundating tide of its desolating evils. The great variety of conflicting opinions which different writers have advanced with regard to the pathology of fever is well known to all. The names of Boerhaave, Stahl, Hoffman, Cullen, Brown, Darwin, Clutterbuck, Broussais, with others were it necessary, need but be mentioned, to remind you of as many different hypotheses invented to account for its various phenomena, each of

which, has had its term of popularity. The particular form of fever seems to be determined by various influences, such as the prevailing diathesis, locality, and situation or circumstances of those afflicted. Thus in one locality we find it assuming a certain type, while in another, or the same at another time it is committing its ravages with entirely different phenomena. For a time past no form of fever has been more prevalent, especially in our Atlantic ports, than an epidemic typhus, imported from Ireland and familiarly called Ship Fever. Being better acquainted with this variety than any other, and having myself been afflicted with the malady, I have selected it for the subject of this dissertation, so that, hereafter in its preparation, some aid might be derived, from personal observation and experience.

Symptoms. (Premonitory.) For a period, varying from one, to three or four days previous to the commencement of the proper febrile action, which is announced by a chill, the person who is to be at-

tacked by this disease, in some cases, experiences the usual symptoms of approaching fever; there is a general weariness and indisposition, the countenance is pale, the patient looks ill, feels weak, and is easily tired. The tongue appears slightly furred, the bowels are irregular more commonly confined, though in some instances they are in the opposite state. In other cases the symptoms of this stage are wanting, and those which mark the stage of invasion are the first noticed. This stage is taken as the time from which to date the commencement, and is characterized by slight chills, paleness of the surface, frequent nausea and sometimes vomiting. The pulse is small and quick, and there is severe headache with mental and physical depression. This stage is generally of short duration frequently terminating in five or six and seldom continuing longer than twelve hours, when it is succeeded by the next stage, that of reaction, which is distinguished by the following symptoms. The headache at this period is generally so intense as to engross the

whole attention of the patient, and the physician is often entreated to remove this symptom and is assured that by so doing he will be successful in at once arresting the disease. At the same time the temperature of the body is considerably increased, the skin becomes dry, the tongue furred, the face slightly flushed, and there is restlessness, with an irresistible longing for cool and acidulated drinks. The pulse is increased in frequency averaging from 100 to 120 beats in a minute, and the respiration is frequent and irregular. The bowels are more frequently torpid than otherwise, the urine scanty and of a reddish color. If catarrhal symptoms were not present before or at the commencement of the fever, they usually make their appearance within the first two or three days of this stage; they are a dry cough with more or less oppression in the chest, a difficulty in swallowing, and frequently a moderately inflamed state of the conjunctival membranes. These symptoms continue with more or less severity throughout the remainder of this stage. The whole surface

of the body is of a darker hue than natural, the cheeks and lips nearly livid. Soon in the commencement of this stage the sense of hearing begins to fail, and the failing continues increasing gradually till it is with great difficulty that the patient can be made to hear. The headache generally subsides within three or four days, and is often soon followed by delirium, which, sometimes though seldom, reaches a high grade.

These symptoms modified by various circumstances mark the first week of the febrile paroxysm at the end of which time a change is to be noticed. In a few instances convalescence has commenced at this time, but nine tenths of the cases continue longer generally another week with only a change in the symptoms. The pulse continues frequent but loses its strength and fullness becoming small and feeble and there is greater prostration. The patient, if not delirious, is averse from all motion, lies continually on his back, complains of nothing, wishes not to be disturbed, and says he feels well, if asked how he



does. His tongue becomes dry and brown, and his teeth lips and gums are covered with black scabs. In short, this, the second week is characterized by depressed vital power, manifested in the nervous vascular and muscular systems, and is the nervous stage or stage of collapse in ^{which} what are called typhoid symptoms are distinctly developed.

Causes. Effluvia arising from the human body whether in sickness or in health, when confined in close apartments without proper cleanliness and ventilation; all the common causes of fever, cold, fatigue, deficient nourishment, and any cause which produces direct debility, have been assigned as the causes, and by many are considered as being capable of generating fever of this form. "That specific disease," says Dr. L. L. White, "is produced by impure air is a fact established by the most abundant and conclusive testimony. Wherever we find individuals crowded together in localities where filth is accumulated, and a free ventilation is prevented, there, also, we find diseases to prevail

evidently dependent upon the impure and stagnant state of the atmosphere; though other causes no doubt conspire to their development and to augment their malignancy. It cannot, certainly, be denied that it is to the impurity of the air produced by decomposition of the exhalations and excretions of individuals, regardless of personal and domestic cleanliness, when crowded together in confined apartments, that we are to refer the production of the typhus fever, so apt to prevail under such circumstances, as well as the typhoid character of most of the diseases with which such individuals may become affected from other causes." We find the greater part of these causes conjoined with this particular epidemic. It prevailed among a people notorious for their crowded mode of living, and habitual neglect of cleanliness. It was also preceded and accompanied by a famine of which we have received the most appalling accounts. It is easy to see that these circumstances were conducive to its production and had there been no other they might have been regarded as the sole causes of its development.

and extension. But the disease has extended to persons not affected by these circumstances, to those who, from the nature of their avocations necessarily come in contact with those already infected. So many examples of this description have occurred during this epidemic that believe the disease is almost universally admitted to be contagious, capable of being communicated from one person who is suffering from it to another who is not.

Treatment. The treatment, however in this disease varies with its different stages as the symptoms vary, and with the peculiarities of the cases. The appropriate treatment for different cases and the same case at different times is of the most opposite character. During the cold stage an emetic may be of service by giving a centrifugal direction to the circulating fluid, by a systemic reaction and shortening the duration of this stage. The tart. emet. and the cucurbita are preferred for this purpose. It is thought that in some cases they will interrupt the train of morbid actions and pre-

went the further development of the disease. This effect I have not seen produced in a case of this fever owing to the fact, which, that most of the cases had passed the critical period in the administration of an emetic before that treatment was adopted, with the exception of a dose or two of salts, or castor oil, or both. Purgatives are generally indicated in the commencement, and calomel, either alone and followed with castor oil if necessary, or in conjunction with jalap or rhubarb is the one more commonly used. Medicines of this class are frequently required more or less throughout the whole course of the disease, and that one is to be selected which seems most appropriate for the particular case. Diarrhoea not unfrequently supervenes sometime during the course of the disease more commonly towards its termination and if immoderate it may be remedied by the ordinary means. As a general thing the excitement in the stage of reaction is not of such a degree as to require resection. I have not seen it practiced in a single

instance. The tart. emetic I have seen used in diaphoretic doses in a few instances, but in the majority of cases, ipecacuanha in small doses was the principal remedy used to moderate, and canalize the excitement. This article seems to have gained the preference over antimony in consequence of its being the milder of the two, and yet sufficiently powerful for the degree of reaction which was denoted in the generality of cases. With it the diet of bland food was frequently administered as being calculated to exert a favorable influence on the natural symptoms. Towards the end of the first week, the debility becoming more apparent, the moderate use of stimulents is rendered admissible. The common mixture of camphor & ammonia is borne earlier than the more powerful stimulants and in the mildest cases is all that is required, but in others the use of wine or brandy becomes necessary. The Nitrate of silver given as directed in an essay on the relation between the respiration and circulation of

functions by Prof. Horder was productive of bene-
fit in many instances. As soon as the skin became
cool and moist and the tongue begins to clean,
the administration of tinct. hastens the recovery
of the patient. The sulphate of quinine was
altogether the most frequently used for this pur-
pose and was given in doses of $\frac{1}{2}$ grain to $\frac{1}{4}$ gr.
three or four times a day.

Geo. T. Williams.

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